

1921

McINTOSH RED

The Chase  
Geneva,



Nurseries  
New York



A young Kieffer Pear tree that was grown in the Chase Nurseries, and came into bearing in a Central New York orchard

Revised General Catalogue

Fruit and Ornamental  
**TREES**

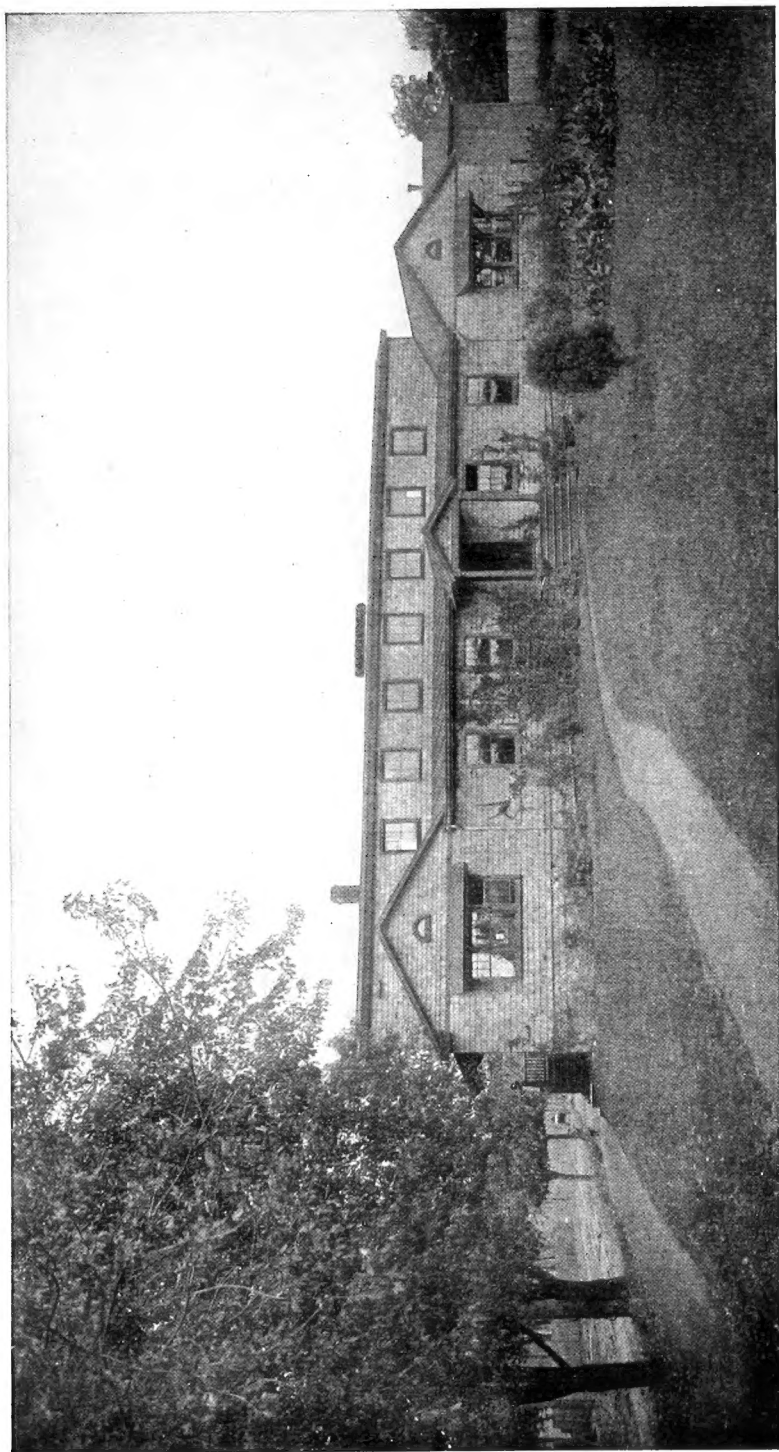
SHRUBS • VINES • ROSES



GROWN BY

**THE CHASE NURSERIES**


GENEVA, NEW YORK



Office and Grounds of The Chase Nurseries, Geneva, N. Y.



# Foreword

VER fifty years' experience in the growing of fruit and ornamental trees, shrubs, vines and plants, has firmly established our reputation for the very best there is to be had in this line. In this revised general catalogue we offer varieties of recognized value, and have not attempted to mention old sorts which have run out, and which are obsolete. There are, for instance, a great many varieties of apples for which there is no demand, and which are not grown by nurserymen at the present time. Their places have been taken by new and improved varieties, the most valuable of which you will find in this catalogue. This also applies to all other classes of fruit.

Western New York is everywhere known as the best section of the United States for the production of hardy, healthy, long-lived trees. Geneva is located in the very heart of this territory, and has exceptional soil and climatic conditions favorable to this particular industry.

It seems hardly necessary to emphasize the fact, so self-apparent in its nature, that a location like ours, and the long experience we have had, combined with progressive business methods, give us advantages in the production of nursery stock that enable us to give our customers the greatest satisfaction.

In the growing season, our nurseries present a beautiful and interesting sight, and a warm welcome always awaits our patrons and friends who find it convenient to visit us in person. A visit to a modern nursery is well worth while, and we cordially invite those who are interested in this subject to come and make us a visit.

## OUR GUARANTEE AS TO STOCK

We guarantee our stock to be free from San José scale and other insect pests, or diseases of any nature whatsoever. Twice every year a representative of the Department of Agriculture of the State of New York makes a careful inspection of our nursery, and we are furnished with a Certificate of Inspection, which is in itself a protection to every customer.

## FOREWORD, continued

As an additional precaution, we have built on our packing grounds a scientifically-constructed concrete fumigating house, where every tree and plant is fumigated with hydrocyanic acid gas before it is shipped. The additional expense in connection with this fumigation is not inconsiderable, but it enables us to give our customers an absolute guarantee that trees are in a perfectly healthy condition when received.

We offer our goods for sale through a large force of reliable and responsible salesmen, and make deliveries at the homes of our customers. We accept orders for only such varieties as we can furnish, which enables us to guarantee everything to be true to name. If, however, through a mistake made by the carelessness of any person in our employ, a tree should not be true to label, the purchase price will be refunded the customer, or other stock furnished, at his option.

We have tried to make this catalogue a little bit different, and a little bit better than any we have previously issued, and we call your attention to subject matter at the beginning of each department, giving instructions in condensed form as to how to transplant and grow the different fruits, etc. We believe this will be appreciated by every one, and can safely say that if these instructions are carried out, and this book preserved for future reference, the best results will be obtained.

A copy of this catalogue will be sent free of charge to every customer who desires one, or to any friend who is interested in the growing of high-grade fruit and ornamental trees, shrubs, vines, etc.

Very respectfully,

**THE CHASE NURSERIES**

GENEVA, NEW YORK





A partial view of a two-hundred-acre Apple orchard

## Fruit Department

Western New York is not only adapted by soil and climate conditions to the production of fruits, but nature has been equally generous in supplying the elements necessary for the propagation of a superior grade of nursery stocks, which will include fruit and ornamental trees, shrubs and roses. Our location offers many advantages not found elsewhere for propagating fruit trees, which, after careful attention in the nursery, will, under even the most ordinary conditions, become sturdy and profitable trees.

The Chase Nurseries are situated in the heart of a great fruit-belt, near the foot of Seneca Lake, one of the chain of New York's beautiful inland lakes. The proximity of this body of water has the effect of slightly raising the temperature in winter, therefore the young trees are not subjected to the extremely low degrees of cold that are reached in many sections. Likewise in summer the water tends to cool the air; and in fall the lake, which has been warmed by summer suns, lengthens the growing season by holding off the early frosts.

The soil, too, seems to have been prepared by Nature's forces for the nurseryman. It is principally of a limestone formation, with here and there strips of clay, loam and sand—the three soils that our experience has shown to be best adapted to the nursery stocks that we grow, and this leads us to say that we do not believe that any one nursery is so situated that it can successfully grow all varieties of trees. Our fifty years' experience in the nursery business has shown to us most convincingly that varieties propagated in certain favorable localities are stronger, mature quicker, and produce better fruit than the same varieties propagated in unfavorable localities.

This latter statement applies with equal force to the growing of fruit as well as trees, and we shall be pleased to assist any one in making a selection of such varieties as are best suited to the locality in which they are to be grown. We can help you because we know what kinds are best suited for your locality. When the right varieties of Chase Nursery trees are selected, planted carefully and given reasonable care, there is no reason why they should not flourish and produce profitable crops.

For many years Western New York has been famed for its nursery industries and fruit orchards. Crowning the ridge that runs along the south shore of Lake Ontario, with the western end at Niagara Falls, the eastern just about touching the city of Syracuse, lies one of the richest fruit-belts of this country. Marvelous stories of the profits made in some of these orchards are told at the annual meetings of the orchard owners—stories that are almost unbelievable unless you know the men and the conditions that prevail in that wonderfully fertile region. But the stories are true, and the same successes are being achieved yearly by men who make fruit-growing a study, and who bring their knowledge and accumulating experience to bear on attaining the one important result, the growing and marketing of fine fruits.

Not in this section alone, however, are farmers and orchardists gaining financial success in growing fruits, but in many other parts of the country the evidences of prosperity about the fruit farms is ample proof of the statement that fruit-growing offers one of the greatest opportunities for money-making that the farmer has had presented to him in many years.

The fact that we are located in such a vast orchard gives to us opportunities to know from actual observation what varieties are best adapted for propagating in our soil and climate, therefore we list in this catalogue only those that we know can be grown successfully in our nurseries, and when delivered to our customers will be satisfactory in size of the trunk, in the root formation, and in the vigor and health of the tree. Furthermore, we watch each variety at its fruiting period, keep careful and accurate records of the yield, shape, color and quality of the fruit from each, that our customers may receive only such information as will be helpful to them. An orchard is something that remains for years when once planted, therefore we advise you to be extremely cautious to get the trees best suited to your locality.

No agricultural industry has in recent years advanced more rapidly than that of fruit-growing. The supply of high quality fruit is never equal to the demand; more and more are the people of the cities calling for fruits of all kinds. Not only is the demand insistent here at home, but the English and Continental Europe markets are calling for all that we can send them, and paying good prices too. With this continually increasing demand, the farmer who sets an orchard of apple, peach or pear trees has a gold-mine that is almost inexhaustible.

But the farmer who tills a large acreage is not the only man who should be interested in growing fruit, although to him it means a greatly increased return from each acre so used. The man with a small place, 25 acres or less, as well as the man who has only a city lot, should be interested in a proportionate degree at least. The small farmer may not wish to care for an orchard, and for him the possibilities of the small-fruit culturist are opened. If near a city a most desirable market can be found at hand, and the entire crop disposed of at fancy prices.

Fruits on a suburban lot should never be overlooked when the grounds are being planned. While the great money-making possibilities are lacking in this small space, the pleasure and added health given to the family by planting cherry, apple, peach and pear trees, as well as the smaller fruits, is too important to be neglected. It should, therefore, be the ambition of every owner to cultivate some fruits, without regard to the pecuniary profits. There are certain varieties that are most suitable for this home-garden planting. We shall be glad to assist you in making selections; just tell us how much space you have and what you would like to plant; we will give you a list of the best varieties.

We have at the present time over three hundred acres under cultivation, consisting of land adapted to producing only strictly high-grade nursery stock. In addition to the farms, we occupy a large amount of ground devoted to the transplanting of imported evergreens, fancy trees, shrubs, etc., and to our office building, frost-proof storage cellars and packing-sheds.

Perfect specimens of young trees of the proper size and age for successful transplanting is what we aim for—and accomplish. This, of course, means more than ordinary care, more than the usual expenditure of money, and an intimate knowledge of nursery methods, and our increasing business shows that we are able to give our customers the very best stocks to be had—and that they are satisfied with our products.

Unless otherwise stated, the period of ripening given in this book for the various fruits listed is the time of maturity in western New York; it will be found to vary north and south of this latitude. Every effort has been made to have the descriptions of varieties give information of a valuable character, without exaggeration or impossible claims. The size and color of the fruit, its quality and habits, and time of ripening, are set forth in every case. Following the descriptions of fruits by classes, we give selected lists of the kinds most valuable for particular sections.







Picking the "King of Fruits" in a western New York orchard. Most of the fruit can be reached from the ground

## APPLES

Apples are unquestionably the leader of all the fruits grown in the United States. The trees are equally as productive in the South as in the North, providing the proper varieties are selected. The standard sorts will begin bearing when from six to ten years old, and continue in profitable fruiting condition for forty years or more.

**THE SOIL.** While the Apple is a tree that can be successfully grown in almost any soil when proper attention is given to cultivation and fertilizing, the most gratifying results are obtained on a deep, gravelly or clay loam. Sandy loam will likewise produce profitable bearing trees, and some very stony fields furnish ideal conditions for orchards. Practically any soil that will produce a good crop of grain, corn or wheat, will be entirely suited to growing Apples.

Too much attention cannot be given to the initial preparation of the land. If the soil is a stiff clay or clay loam, it should be deeply plowed and well harrowed. Care should be taken to provide good drainage, as the trees are impatient of a wet soil; this can be done by selecting a location with a slight natural slope, or by underdraining with field-tile. At the time of plowing the ground should be liberally fertilized, either with barnyard manure, or commercial fertilizers that contain the elements needed by your particular soil, a matter very easily determined through your state agricultural experiment stations.

**THE TREES.** The first essential point in successful fruit-growing is the selection of the varieties adapted to your location. As before stated, we shall be pleased to assist you in selecting such varieties of Apples as are best for your plantings; just tell us what the soil is, where the orchard is to be located, the height above the sea-level, and we know we can give you valuable advice.

Two- and three-year-old trees are used almost exclusively in the East, and we believe these are best. The trees have had more time in the nursery row, with careful cultivation and training, and are from 5 to 7 feet high.

It is customary with some nurserymen to allow a tree to grow two or three years from bud

## APPLES, continued

without establishing a properly formed head. This is not permitted in our nursery. Every tree we send out has been headed back, so that if kept properly trimmed it will produce a tree with a properly formed head. This care on our part saves you much labor and expense.

Our trees are budded on whole-root French seedlings, which are grown in southern France, under the personal supervision of our French representative. While these cost us more money than domestic seedlings, they are far stronger and produce hardier fruit trees. Figure A, No. 2, shows a French Apple seedling as we receive it from France. No. 1 in the same picture shows the seedling properly trimmed for transplanting. Figure B shows a two-year-old Apple tree as we deliver it to our customers. Note particularly the strong root-system, clean body and perfectly formed head. Figure C shows a two-year-old Apple tree properly trimmed for transplanting. We have taken pains to reproduce these photographs for the reason that the average man who buys a fruit tree does not realize the importance of trimming the roots and branches at the time of transplanting. If one expects to get the best results, something more must be done than simply planting a tree in the ground as we deliver it to the customer, without any further care or attention. This is one reason why there are so many failures. The first cost of a fruit tree is nothing in comparison to the time, money and labor spent in bringing it into bearing. Why, then, is it not good judgment to give that tree proper care and attention, if the best results are expected?

**SETTING THE TREES** Apple trees should be set about 30 feet apart each way. Dig the hole large enough to take the roots without crowding, and deep enough to let the tree stand a little lower than it stood in the nursery. Work fine dirt well in among all the fine roots, and cover the surface with dry soil, firmed thoroughly, that the rootlets may come in contact with the soil at every point. If planted in dry weather, water may be applied freely at the roots, but avoid wetting the surface, as it will cause the soil to form a hard crust. A mulch of hay, straw or newly cut grass clippings is advisable in case of dry weather immediately after planting.

**CULTIVATION.** Keep the soil loose by frequent cultivation; this tends to conserve moisture by forming a dust mulch. We do not approve of a permanent seeding in an orchard, but sweet corn or vegetables may be grown if the soil has been well fertilized.

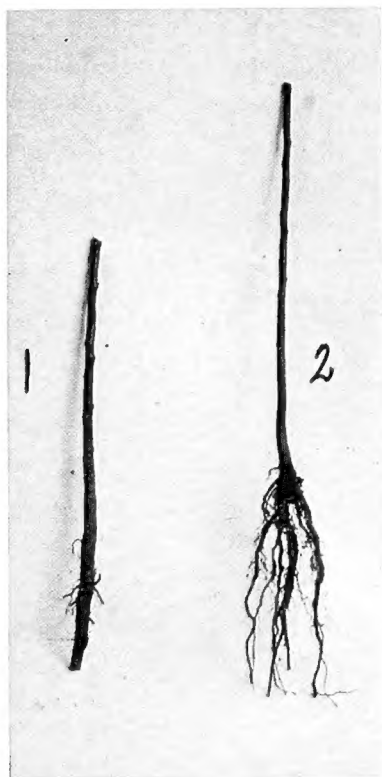


Fig. A. No. 2 shows an Apple seedling as we receive it from France. No. 1, after it has been properly trimmed for transplanting.

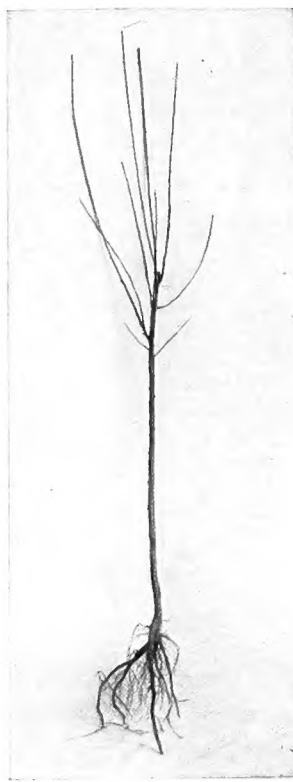


Fig. B. Two-year Apple tree as delivered to our customers. Note where it is headed back.

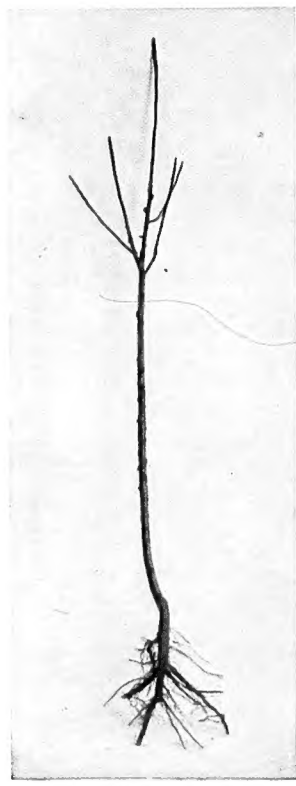
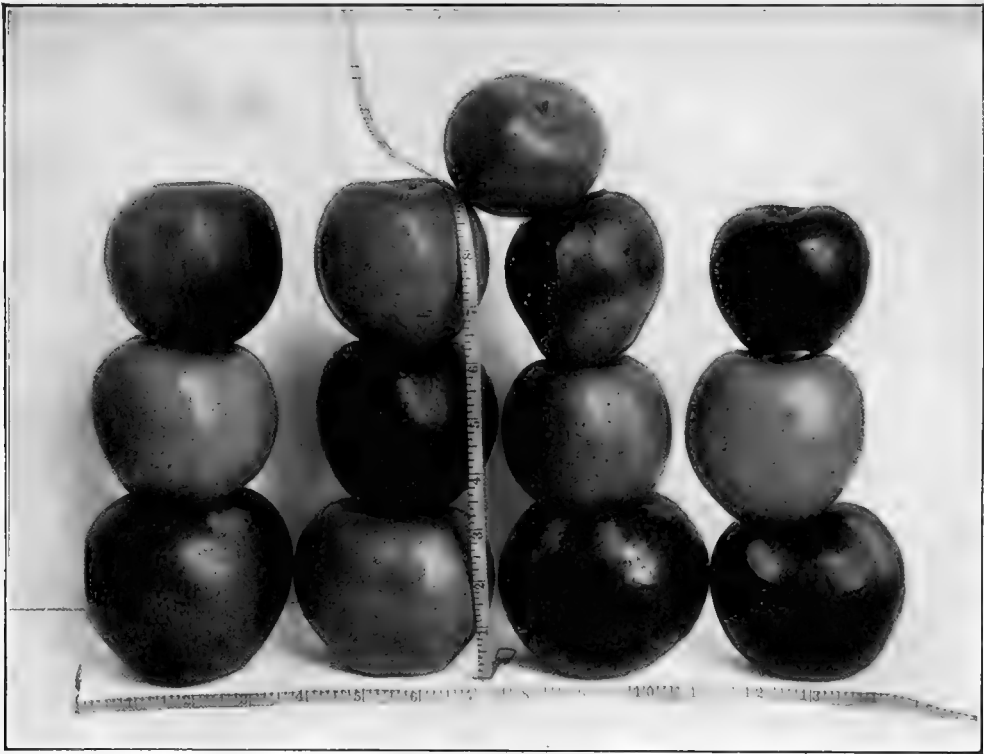


Fig. C. Two-year Apple tree properly trimmed as to roots and tops before planting.



Jonathan  
Yellow Transparent  
Gano

Yellow Belle  
Spitzenburg  
R. I. Greening

Winter Banana  
Early Strawberry  
Grimes' Golden  
Rome Beauty

Winesap  
Northwestern Greening  
Stayman's Winesap

#### APPLES, continued

The best cultivation for an Apple orchard is that which begins early in the season and keeps the surface soil stirred until late summer or early fall. For the first few years, the land may be plowed rather deep at the first spring workings. For subsequent cultivations, spring-tooth, cut-away and smoothing harrows adapt themselves to the orchard soil, but no single tool is best for all soils nor all years.

In all loose soils shallow cultivation is always preferable. When the land is once in good condition, little time or effort is required to keep it so. Crust should never be allowed to form, and weeds should be killed at once. The surface should be thoroughly stirred at least once in two weeks during the season of cultivation.

The same general directions here given for Apple orchards are applicable also to pear, plum, and cherry culture; but we have deemed it advisable to add some other notes in those departments, to which you are referred.

#### MULCHING

It is very important, in transplanting all kinds of fruit or ornamental trees, to see that a proper mulch is provided. The object of mulching is to conserve the moisture in the soil by preventing or hindering evaporation. When it is impracticable to keep a surface mulch by means of tillage with horse-tools or a rake, it is advisable to use straw, coarse stable manure, or dead leaves. Soils which are covered with a mulch do not bake. If the best results are to be obtained in transplanting young nursery stock, one of the most important features is proper mulching.

#### SUMMER APPLES

**Duchess of Oldenburg.** Large, roundish; streaked red and yellow; flesh white, tender, juicy and pleasant. Tree vigorous, fine grower and abundant bearer; very hardy. One of the important varieties. September.

**Early Harvest.** Medium to large; pale yellow; tender, mild and of fine subacid flavor. Tree moderate grower, erect and of a good bearer. One of the first Apples to ripen. Middle to end of August.



## SUMMER APPLES, continued

**Early Strawberry.** Medium; striped with deep red; tender; flavor very pleasing. Tree moderate grower, compact, bearing freely. Middle to end of August.

**Golden Sweet.** Large; fine yellow; very sweet. Tree an abundant grower, spreading, irregular; highly productive. August and September.

**Red Astrachan.** Fruit, medium size, and handsome color; almost covered with deep crimson; juicy and somewhat acid; excellent

excellent for table use and widely known as a market Apple. October to December.

**Fameuse.** Medium size; deep crimson; flesh pure white, tender and melting. Fruit very handsome and sells well. Tree hardy and vigorous; succeeding well in the North. Commonly known as the Snow Apple and one of the finest dessert fruits. November to January.

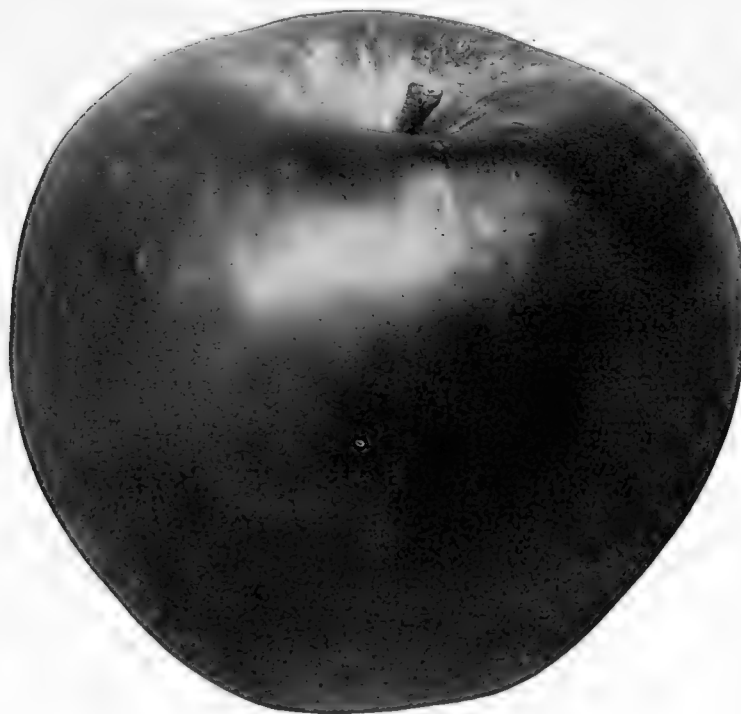
**Gravenstein.** Large, roundish, greenish yellow, striped with red; flesh tender, juicy and crisp, with slightly aromatic flavor. Tree vigorous and erect in growth; matures rapidly; is very productive, and a regular bearer. Considered by reliable growers as one of the finest of the fall Apples. September and October.

**Maiden Blush.** Large, flat; pale yellow, with a red cheek; tender and pleasant, but not highly flavored. Tree free-growing, erect and a good bearer. An old, well-known sort, and a favorite in some localities. September and October.

**Rambo.** Medium; yellowish white, mottled with red; flesh tender, juicy and mild-flavored. Tree vigorous in growth and a profuse bearer. A widely known variety, that has proved profitable to the owners. The fruit is used in many localities for drying, the whiteness of the product making it very attractive when offered in the market. October and November.

**Smokehouse.** Large; yellow, splashed with bright red; firm, juicy, crisp and rich. Tree a very crooked grower, but vigorous. October and November.

**Wealthy.** Medium, skin smooth, mostly covered with dark red; flesh white, juicy, subacid and of pleasant flavor. Tree very hardy, free-growing and productive. Oct. and Nov.



Gano Apple

for cooking. Tree very hardy; rapid grower, with large foliage; a good bearer. August.

**Sweet Bough.** Large; light greenish yellow; sweet, crisp and juicy. Tree a moderate grower, close and compact, bearing freely. August.

**Yellow Transparent.** Pale yellow; fruit of medium size, roundish, ovate; tender, juicy; of very good quality. Tree free-growing, hardy, bearing unusually early. Especially recommended for the South, where many varieties are not satisfactory. August.

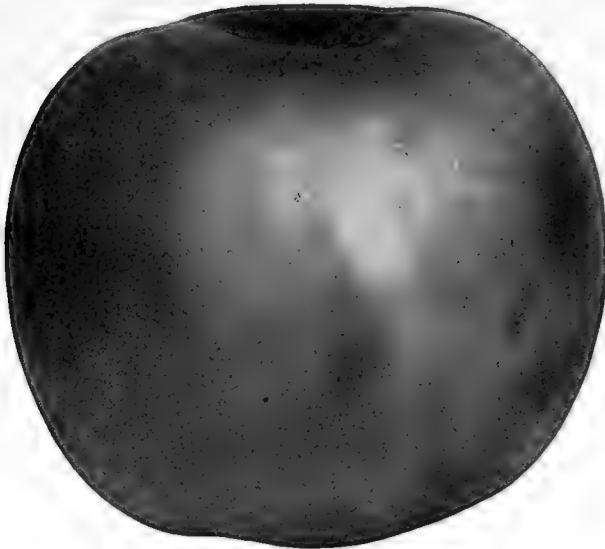
## AUTUMN VARIETIES

**Fall Pippin.** Unusually large, roundish, oblong; yellow; flesh, juicy, rich and delicious. Tree a free and spreading grower; fine bearer;

## WINTER VARIETIES

**America.** Large, round, uniform and perfect; deep red; pleasantly subacid. Tree hardy; an annual bearer. December to March.

**Arkansas Red.** Large; light crimson, shading to medium red, with indistinct splashes in stripes; flesh fine-grained, whitish, touched with red and yellow. January to March.



Grimes' Golden Apple

## WINTER APPLES, continued

**Baldwin.** Large; brilliant red; flesh crisp, rich and juicy, yellowish in color. Tree upright, productive and vigorous. Not reliable in the South and West and not hardy in the extreme North. December to March.

**Ben Davis.** Large; striped; a handsome Apple of fair quality; flesh whitish, tender and juicy; a splendid keeper. Tree very hardy, vigorous and free-bearing. December to March.

**Fallawater.** Large; yellowish green, with dull red cheek; flesh greenish white, mild, slightly subacid. Tree a strong grower and good bearer. November to January.

**Gano.** Large; deep red, shaded mahogany; flesh fine-grained, tender, pleasant and mildly subacid. Tree healthy, vigorous, and hardy, bearing large crops of choice fruit. February to May.

**Golden Russet.** Medium; dull russet, with touch of red on exposed side; flesh greenish, crisp and high-flavored. Tree vigorous, hardy and bears well. November to April.

**Grimes' Golden.** Medium; golden yellow, sprinkled with gray dots; flesh crisp, juicy and sprightly. Tree hardy, vigorous and productive. One of the most popular of the yellow varieties. Commands high prices in all markets on account of its color and quality. A splendid Apple for dessert or for cooking. January to April.

**Hubbardston Nonesuch.** Large; striped red and yellow; tender, juicy and fine-flavored. Free grower; great bearer. November to January.

**Hendrick Sweet.** Medium, roundish ovate; red splashed with crimson; flesh tender, juicy and very sweet. November to March.

**Jonathan.** Medium; bright red; flesh rich and juicy. Tree a moderate grower; shoots slender and spreading; exceedingly productive. November to March.

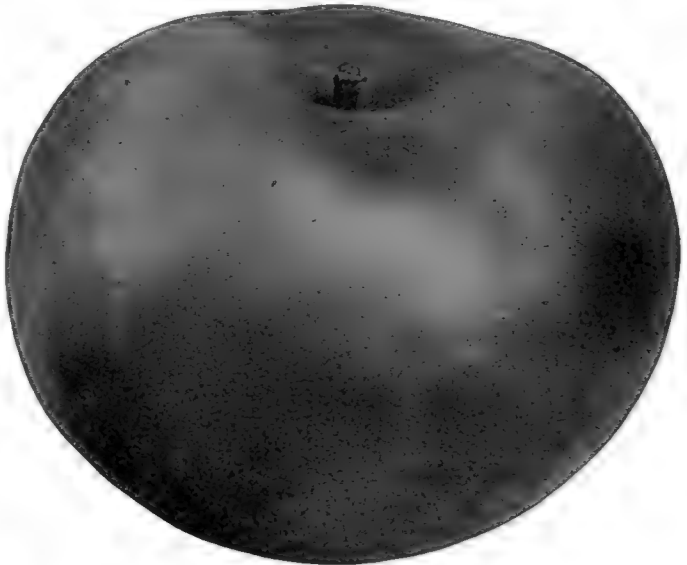
**King.** (Tompkins King). Large; red and yellow, sometimes striped; flesh of the finest quality. Tree a vigorous grower, good bearer and hardy. November to January.

**McIntosh Red.** Large; whitish yellow, almost covered with bright red; flesh white, tender, subacid and very good. Tree vigorous and hardy. November to February.

**Northwestern Greening.** Large; often green, but yellow when fully ripe; flesh yellow, rather coarse, juicy and subacid; quality good. January to May.

**Northern Spy.** Large; striped, covered on the sunny side with dark crimson; flesh rich and highly aromatic. Tree rapid, erect grower very free-bearing. Fine light Apple. January to May.

**Oliver.** (Senator). Medium; bright red, on greenish yellow ground, distinctly dotted; flesh yellowish white, juicy, rich, intense Apple flavor. Tree vigorous, symmetrical grower; an early and heavy bearer. Jan. to Feb.



Winter Banana Apple

## WINTER APPLES, continued

**Paragon.** Large; bright red; flesh fine and superior in flavor. Tree a strong grower; bears early and abundantly. December to April.

**Peerless.** Medium to large; yellowish green, with stripes and splashes of carmine; flesh yellowish white, fine-grained, agreeable flavor, subacid, but not rich. October to March.

The Peerless Apple was originated in 1867 by J. G. Miller, of Rice county, Minnesota, from seed of the Duchess of Oldenburg, supposed to be crossed with Talman's Sweet. It combines the well-known virtues of the former with the long-keeping qualities of the latter. It has repeatedly outlived the severe rigor of our worst winters and the most destructive blight of summer, when other varieties, growing along side, succumbed. The Peerless has been thoroughly tested and brought into bearing in all sections of the United States, with the best of results. Its powers of endurance have been put to the severest test, and it has survived through all the exposure to all the worst enemies of Apple culture. For a severe climate, where hardy, blight-proof and productive trees are required, the Apple that most nearly meets all requirements is the Peerless. Withal, the quality of the fruit is excellent.

**Pewaukee.** Medium; bright yellow, striped and flashed with dark red; flesh white, juicy,



Duchess of Oldenburg Apple

subacid. Tree vigorous and especially hardy. January to May.

**Rhode Island Greening.** Large; green, turning yellow, becoming dull blush when ripe; flesh yellow, fine-grained, tender, with rich, rather acid flavor. Tree vigorous, spreading and productive. Is always more or less crooked in the nursery. November to March.

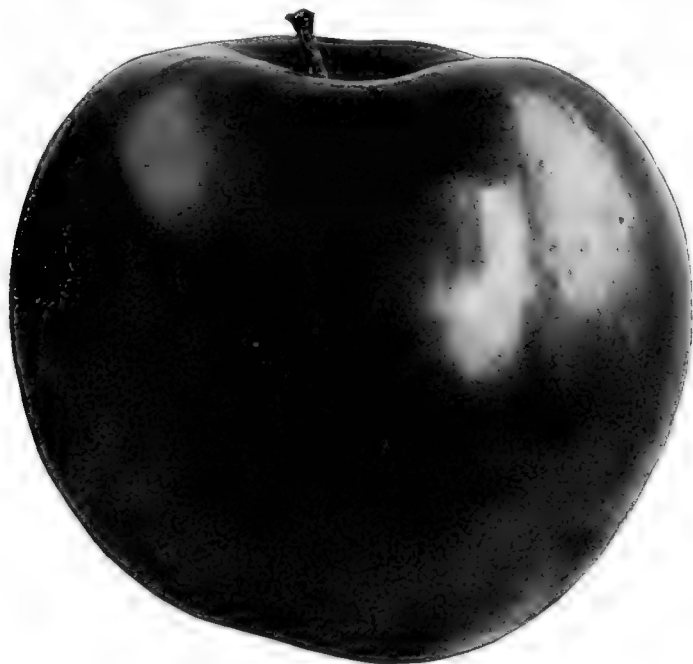
**Rome Beauty.** Large and handsome; yellow, with a crimson cheek; flesh-yellow, tender and juicy. One of the best winter varieties. Trees bear heavy, annual crops, November to Feb.

**Roxbury Russet.** Medium; greenish, covered with russet; flesh moderately juicy, pleasant flavor. Tree a free grower, but rather crooked. A great bearer. January to June.

**Seek-No-Further.** Medium; dull red, striped and russeted; flesh white and fine-grained, with rich flavor. Tree free grower. November to February.

**Spitzenburg.** Large; deep red with gray spots; flesh-yellow, crisp, and rich. Tree slow grower, moderate bearer. November to April.

**Stayman's Winesap.** Large; bright red, striped, firm, tender, rich and juicy. Tree a strong grower and heavy bearer, and will resist dry weather and thrive on soils where the old Winesap will fail. We recommend this variety where a profitable sort is desired. February to April.



Stayman's Winesap Apple

## WINTER APPLES, continued

**Stark.** Large; greenish yellow, striped with red and thinly sprinkled with brown dots. Flesh yellowish, moderately juicy, mildly subacid. Tree an early and abundant bearer. January to May.

**Sutton Beauty.** Medium to large; waxen yellow, striped with crimson; flesh whitish, tender, juicy and subacid. Keeps remarkably well. Free grower, productive. January to February.

**Talman Sweet.** Medium; pale yellow, tinged with red; flesh firm, rich and sweet. Tree a free grower, upright and a generous bearer. November to April.

**Winesap.** Large; deep red; flesh yellow, firm and crisp. Tree a moderate grower and good bearer. Succeeds well in the West. December to May.

**Wagener.** Medium to large; deep red; flesh firm, subacid and excellent. Tree vigorous and upright grower, bearing freely. Dec. to May.

## SPECIAL LIST NO. 1

**Extra-Hardy Apples.** In the northern part of the United States, a person who wishes to succeed with Apples must plant the extra-hardy varieties. For many years there were but one or two sorts which could be grown to advantage in the extreme North. The introduction of Russian varieties and northern seedlings, however, has given us quite a list of Apples which will thrive and bear abundantly in any section that is visited by our salesmen. We recommend the following kinds, and believe that they will give satisfaction under the most adverse conditions.

**Yellow Transparent.** July and August.

**Duchess of Oldenburg.** September.

**Wealthy.** November and December.

**McIntosh Red.** November to January.

**Peerless.** December to March.

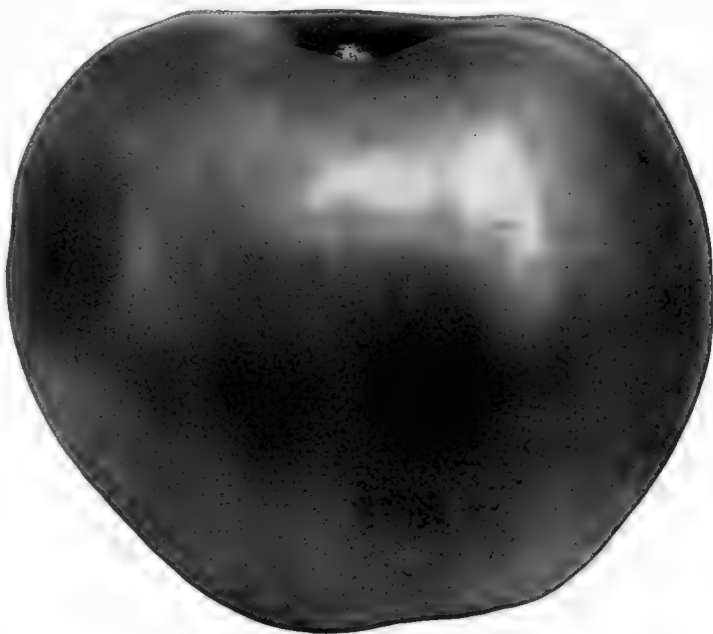
**Winter Banana.** Large; golden yellow, marked with crimson-red; flesh fine-grained, subacid, rich aromatic flavor. Tree remarkably strong grower; very hardy. November to May.

**Wismer's Dessert.** Medium; yellow-striped shaded with bright red; delicious, subacid flavor. Tree extremely hardy; a regular and abundant bearer. January to March.

**Wolf River.** Medium; greenish yellow, shaded with crimson; flesh-white and juicy; peculiarly pleasant, mild, subacid flavor. Very hardy, a strong, stout grower; great bearer. October to December.

**Yellow Bellflower.** Large; yellow, with tinge of red on the sunny side. Flesh crisp and juicy, with sprightly aromatic flavor. Tree a free grower and good bearer. November to April.

**York Imperial.** Medium; whitish, shaded with crimson; flesh firm, crisp, with mild subacid flavor. Tree an early and abundant bearer. Moderately vigorous. Nov. to Feb.



Rhode Island Greening Apple

**Wolf River.** January and February.

**Pewaukee.** January to April.

**Wismer's Dessert.** January to March.

**Ben Davis.** December to March.

## SPECIAL LIST NO. 2

**Hardy Apples.** The Baldwin variety has long been regarded as the typical hardy Apple, and we have adopted it as the standard of comparison in this class. There are many sections, for instance the territory along the St. Lawrence river, central Maine, New Hampshire, and Vermont, where the Baldwin winter-kills outright or grows so uncertainly as to make it of very doubtful

## APPLES, SPECIAL LIST NO. 2, continued

value. The following varieties of Apples will give satisfaction in these localities. It will be noted that we include in this list the extra-hardy varieties which are equally valuable for all sections.

**Yellow Transparent.** Last of July.

**Red Astrachan.** August.

**Golden Sweet.** August and September.

**Duchess of Oldenburg.** September.

**Fameuse.** November and December.

**McIntosh Red.** November to January.

**Grimes' Golden.** December to February.

**Gano.** December to March.

**Peerless.** December to March.

**Pewaukee.** December to March.

**Tolman Sweet.** December to April.

**Wolf River.** January and February.

**Northern Spy.** January to May.

**Golden Russet.** January to June.

**Stark.** January to May.

**Ben Davis.** December to March.

## SPECIAL LIST NO. 3

**Southern Winter Apples.** Southern planters find that in making up their list of winter Apples the selection of varieties is of supreme importance. A great disappointment will invariably result from planting kinds of northern origin, as Baldwin, Greening and King. In the warmer climate and longer seasons these have proved to be fall Apples. As a result, there is an erroneous impression that the ripening of these sorts in the fall is due to the trees having been grown in northern nurseries. The particular spot where an Apple tree was propagated has nothing to do with the season of ripening its fruit. The place of the origin of the variety has everything to do with such season, however, and this point is of great and vital importance in selecting Apples for southern culture. A tree of the King Apple from a nursery in Georgia and another from a nursery in New England, planted side by side in Delaware, both will produce Apples ripening in October. Plant the same trees in western New York, and the product will be a good winter Apple. Southern planters should select varieties of winter Apples that have had their origin in the South.

The southern states have produced a few valuable winter kinds, and growers in that section are not dependent on unsuitable varieties. Below is the list of varieties which have proved late keepers in the South, where most of them originated. The season of ripening given is when these kinds mature in southern Pennsylvania and Maryland and in similar localities.

**America.** November to February.

**Grimes' Golden.** December.

**York Imperial.** Dec. to Feb.

**Ben Davis.** December to March.

**Gano.** December to March.

**Peerless.** December to March.

**Winter Banana.** Dec. to March.

**Arkansas Red.** January to March.

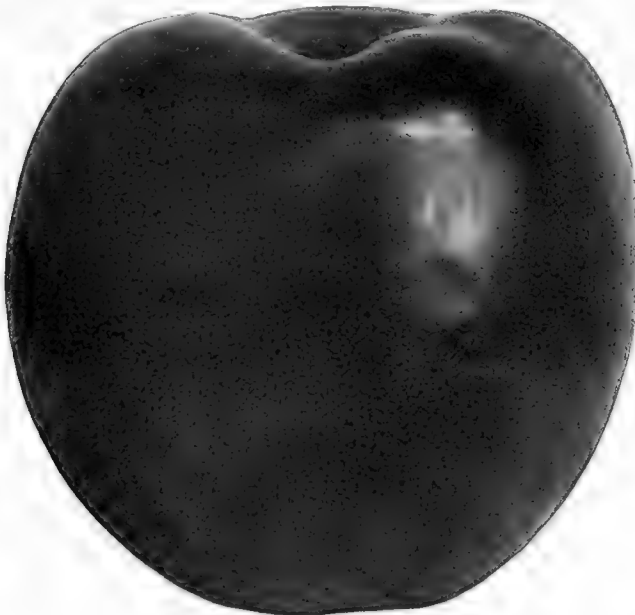
**Mann.** January to April.

**Stark.** January to May.

**Winesap.** January to April.

**Paragon.** March and April.

**Stayman's Winesap.** Mh. and Apr.



Spitzenburg Apple

## CRAB APPLES

**Excelsior.** A new variety, raised from seed of Wealthy; perfectly hardy, vigorous and productive. Ripens in September and October.

**Martha.** One of the largest of the Crab Apples; bright glossy yellow, shaded light red; flavor mild, clear tart; fruit showy and beautiful; size small. October and November.

**Transcendent.** A beautiful variety of the Siberian Crab; red and yellow; fruit very large; excellent for sauce and pies and the best of its class for cider. Flavor is unusually agreeable. Skin yellow, striped with red. Tree remarkably vigorous, growing to a good size and immensely productive. September to October.



A Kieffer Pear orchard in Pennsylvania. The trees are comparatively low, thus making easy picking

## PEARS

The soil at the Chase Nurseries is unusually favorable for growing Pear trees, and these have for many years been one of our leading specialities. Not only are our young trees healthy and vigorous, but our selection of varieties is larger than that of most nurseries. We have also been careful to list only those that are considered the best in the different classes. Pears are propagated as **standards**, budded on seedling Pear stock, and as **Dwarfs**, budded on French quince stock.

Standard Pears will thrive on a great variety of soils—clay loam, sandy or gravelly soil—and will bear profitable crops on shallow land where many other fruit trees would not survive. In situations where nature has not provided natural drainage this must be supplied by ditching or tiling. The importance of drainage cannot be over-estimated, for on land where water stands in early spring, or that is wet during the growing season, the trees seldom produce good crops; the cost of proper artificial drainage is slight when compared with the value of a bountiful crop of fruit.

Fertilizer from the stable or the usual commercial brands should be used when the land is prepared; also in the spring of succeeding years, for Pear trees respond to care and cultivation as readily as other fruits. Standard Pears should be set from 16 to 20 feet apart each way.

Mulching should not be overlooked when setting Pear trees. For the home garden straw or grass clippings are the most convenient, but in the orchard thorough tillage is best. Instructions for trimming the roots and tops of Pear trees before planting will be found under the Apple department.



Dwarf Kieffer Pears

## PEARS, continued

The Dwarf Pears are a little more particular in their requirements. While the soil and drainage conditions need not vary from those supplied the Standards, liberal amounts of fertilizer should be applied—in fact, the soil cannot be too rich. The Dwarfs should be planted deeper than the Standards, given deep and frequent cultivation, and annually pruned. Dwarf Pears will, however, amply repay all extra care bestowed on them. Dwarf Pear trees should be set from 10 to 12 feet apart. We can furnish all varieties listed in our catalogue in both Standards and Dwarfs, but we recommend those listed under the heading of Dwarf Pears.

The young orchards should have several years of thorough cultivation until the trees are well established. After the spring cultivating is done, a top-dressing of coarse manure will be beneficial and prevent the drying out of the soil—some growers prefer a sod mulch, but this should not be allowed until the trees are perfectly established.

From the following list a home-garden selection of Pears can be easily made that will give a succession of fruit from July to January, and under some conditions even as late as April.

**RIPENING PEARS.** Pears are one of the few fruits that should be gathered and ripened in the house; if permitted to ripen on the trees, the fruit of many sorts is almost worthless, becoming dry and lacking in flavor, but if ripened indoors it will be melting and juicy. Summer and Autumn Pears should be gathered as soon as the earliest specimens are observed to begin ripening—or when the fruit stem separates easily from the branch. The fruit that has not fully developed should be left for a later picking. Pack the fruit in clean boxes, barrels or drawers, until it is ripened. If you wish to retard the ripening, keep the Pears in a cool place.

Winter Pears may be allowed to hang on the trees as long as possible—until the nights become frosty. They should then be gathered and treated the same as winter apples—put into barrels and kept in a cool, dry room, free from frost, until they mature. When the fruit commences to ripen, it may be kept in a warm room to good advantage. The fruit should at all times be kept covered to prevent shriveling.



Bartlett Pear



Koonce Pear

## SUMMER VARIETIES

**Bartlett.** Large; a clear yellow, with blush on the sunny side; flesh buttery and melting, with rich musky flavor. Tree vigorous and erect grower; bears abundantly. Middle to last of September.

**Clapp's Favorite.** Large; pale lemon-yellow, with brown dots; flesh of fine texture, juicy and rich, with delicate vinous flavor. Middle of August.

**Koonce.** One of the largest early Pears; yellow, one side covered with bright carmine and sprinkled with brown dots; flesh juicy, sweet and spicy. Tree remarkably strong grower, hardy and productive. Middle of August.

**Manning's Elizabeth.** Small to medium; bright yellow, with lively red cheek, brown and red dotted; flesh juicy and melting. Tree a good grower and very productive. Last of August.

**Rossney.** Medium to large; light yellow, with crimson blush; flesh fine-grained, melting, juicy and rich; an excellent keeper and good shipper. Tree vigorous, bears early and is very productive. First of September.



## AUTUMN PEARS

**Beurre Bosc.** Large; yellow, russeted; half-melting; highly flavored and delicious. Tree a moderate grower, rather erect; bears well. September and October.

**Duchesse d'Angouleme.** Large; dull greenish-yellow, spotted with russet; flesh-white and very juicy. October.

**Flemish Beauty.** Large; yellow and brown, with spots of russet; flesh melting and sweet, with musky flavor. September and October.

**Howell.** Large; pale waxen yellow, with red cheek; rich and sweet, melting; aromatic flavor. Tree an erect, free grower, hardy and productive. September and October.

**Seckel.** Small; yellowish brown, with red cheek; flesh very rich, spicy and sweet, of the highest flavor. Tree small, slow and erect grower. Standard small Pear. September and October.

**Sheldon.** Medium to large; russet and red; flesh melting, rich and delicious. Tree vigorous and erect, bearing freely. October and November.

**Vermont Beauty.** Medium; yellow and carmine; flesh melting, sprightly and very good. Tree healthy, hardy and productive. October.

## LATE AUTUMN AND WINTER PEARS

**Beurre d'Anjou.** Large; light green, with russet and red cheek; flesh buttery and melting, with sprightly vinous flavor; a splendid keeper. Tree a strong grower and very productive. One of the best autumn Pears; should be in every orchard. October and November.

**Beurre Clairgeau.** Very large; yellow and red; flesh yellowish, nearly melting. Tree a free grower and an early, abundant bearer. This is an excellent market variety. October and November.

**Kieffer.** Large, rich golden yellow, sprinkled with dots and tinted with red; flesh slightly coarse, juicy and melting, with pronounced quince-flavor. Tree remarkably vigorous; an early and prolific bearer. One of the best varieties for planting east of the Rocky Mountains. The Kieffer is a profitable market variety on account of its good keeping and shipping qualities; the large size and rich coloring make it unusually attractive to the purchaser, and it finds a ready sale.

**Lawrence.** Medium; greenish yellow, marked with russet; flesh melting, with pleasant, aromatic flavor. Tree a moderate grower and free bearer; hardy, vigorous and long-lived.

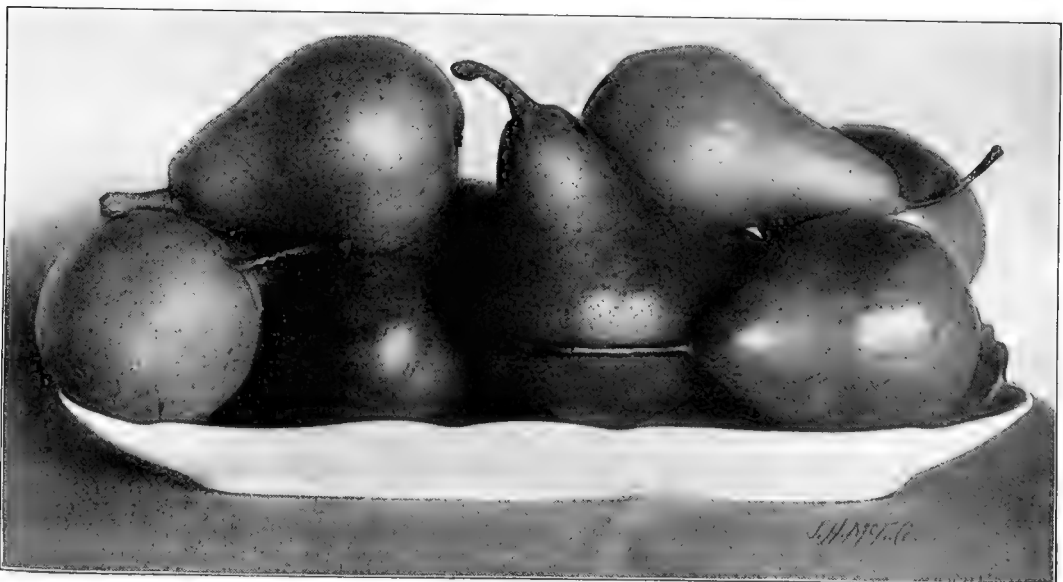
## DWARF PEARS

Though the tree is dwarf, the fruit is the same size as that produced by the Standard trees. We can supply in dwarf form all varieties which we list as standards, but we strongly recommend the following varieties as being most satisfactory:

**Bartlett**  
**Beurre d'Anjou**  
**Vermont Beauty**

**Duchesse d'Angouleme**  
**Clapp's Favorite**  
For descriptions, see standards.

**Lawrence**  
**Seckel**



Dish of Lawrence Pears



Black Tartarian Cherries

## CHERRIES

For convenience, we have divided the Cherries into two classes—first, “the Hearts and Bigarreaus,” which include the sweet varieties; second, the “Dukes and Morellos”, or the sour Cherries. In the first class will be found the strong and vigorous growers, with large, open, spreading heads, or tops, which are best suited for open situations, and where plenty of shade is desired, as the trees are shapely and beautiful. The fruit of this class is desirable for table use, being sweet, luscious, and generally of large size. The color ranges from deep blue-black to almost white. The time of ripening runs from early in June to August, as indicated in our list of varieties.

The Dukes and Morellos do not attain to so large size as the trees listed in the first class, but they are more hardy and are less liable to bursting of bark. The fruit is deep rich red in color, decidedly acid in flavor, and is used principally for canning and preserving. The ripening period in this locality is about the middle of June.

Cherries are really more of a home crop than any other fruit, although large quantities are sold in the market at

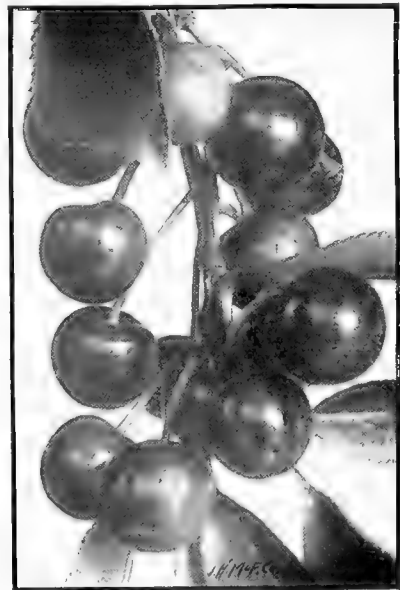
prices yielding good profits to the grower. The trees thrive best on a dry or sandy soil, or soil in which there is plenty of gravel. While soil of this character is required to bring the fruit to its highest perfection, the trees will do very well in almost any situation except a wet one. Care should always be taken to secure proper drainage.

Cherry-growing is one branch of fruit-raising that has been neglected, yet it offers splendid possibilities to the orchardist. The trees have a range of adaptability to soil and climate that makes them profitable in almost every state, except in the extreme South. The trees yield large crops without seeming to need any great amount of care—certainly they thrive and bear with less cultivation than any other fruit crop.

Chase Nursery Cherry trees are budded in the old way, on “mazzard” stocks. These stocks are much more expensive than the common Mahaleb seedlings used by many nurserymen, but by growing the trees in enormous quantities we can sell them for the same prices that are charged for the less desirable stock. The trees are stronger, will live longer and grow to a much larger size when budded on “mazzard” stocks. Undoubtedly the Mahaleb stock had been responsible for the loss of many trees in the past—particularly the sweet Cherry trees, for these are short-lived unless grown on native Mazzard stocks. Cherry trees require about the same care as apples, and for instructions we refer you to our apple department.

### HEARTS AND BIGARREAUS (Sweet)

**Black Tartarian.** Very large; bluish black; juicy, sweet, tender, mild and pleasant. Tree unusually vigorous, erect and handsome; an immense bearer. June and July.



Early Richmond Cherries

## HEARTS AND BIGARREAU CHERRIES: con.

**Dikeman.** Very large; nearly black; solid, rich, sweet; never rots. Tree vigorous grower, hardy and productive. July and August.

**Governor Wood.** Medium; clear light red; tender and delicious. Tree vigorous grower and produces freely. End of June.

**Hoy.** Very large, equaling the finest California Cherries in size; light in color; unequaled by any other Cherry in its high quality and richness of flavor. Tree is a rapid grower, hardy, foliage large and healthy; the fruit hangs in immense clusters, almost hiding the branches. We believe it to be the most valuable sweet Cherry grown. June.

**Lambert.** Very large; dark purplish red; flesh dark red, with whitish vein and meaty texture; small oval stone, semi-cling; flavor sweet or very mild subacid, rich and of highest quality. Tree thrifty, hardy and vigorous grower. June and July.

**Napoleon Bigarreau.** Large; pale yellow, with red cheek; firm, juicy and sweet. Tree erect grower, vigorous; very productive. July.

**Rockport Bigarreau.** Large; pale amber in the shade, light red in sun; firm, sweet and half-tender. Tree vigorous and erect. June.

**Schmidt's Bigarreau.** Large; deep black; flesh dark, tender and juicy; well-flavored; stone small. Tree rapid grower and of good shape. Early July.

**White Caroon.** Large; light color; flavor subacid; seed small. Tree vigorous. The best for canning. June.



Hoy Cherries

**Windsor.** Large; dull red; remarkably firm and of fine quality. Hardy and prolific. July.

**Waterloo.** Medium; yellow, with pink cheek; very sweet, requiring much less sugar for canning than most varieties. Tree erect and prolific bearer. August.

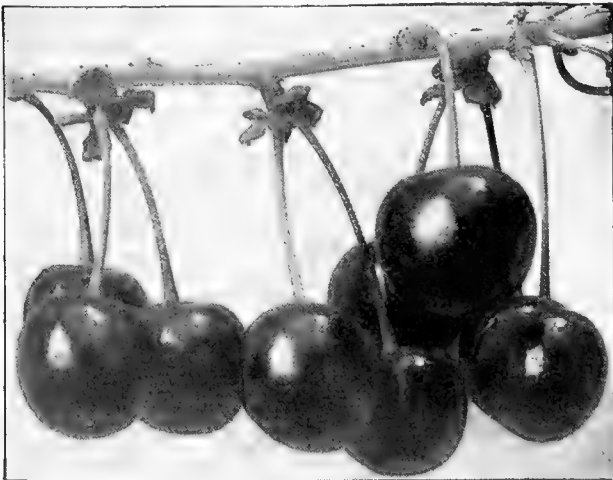
## DUKES AND MORELLOS (Sour)

**Baldwin.** Very large; dark red; almost transparent; slightly subacid, yet sweet and rich. Tree upright, rank and vigorous. June.

**Early Richmond.** Medium; dark red; flesh juicy, rich and acid. Tree a free grower, hardy and healthy; free-bearing. One of the best known standard varieties, and a Cherry that finds a ready market. June.

**English Morello.** Large; dark red, almost black; tender, juicy and rich flavor. Tree strong grower and productive. August.

**Montmorency.** The fruit is large; red; acid; extraordinarily prolific and very hardy. Valuable for canning and preserving. It ships well and brings good prices. The tree is a free grower, and is less susceptible to disease than the other sour varieties. This sort will give some fruit even in unfavorable seasons. Early June.



English Morello Cherries



Plums are an extremely profitable fruit if the orchard is properly cared for. Note how clean this one is

## PLUMS

Plums are a fruit adapted to cultivation over a wide territory, and are generously productive in nearly all locations. Possibly no other fruit is produced more freely, unless it be the cherry, and, like the latter, Plum trees will yield crop after crop despite neglect, yet they will produce a much better grade of fruit when given care, and cultivated as modern orchards should be.

The trees are hardy, and will grow in almost any part of the United States, but as a rule they do best in a heavy loam, or in soils containing a considerable portion of clay or with a clay sub-soil. In sandy soils it is well to turn under coarse manure or litter; wood-ashes are also a splendid fertilizer. Mulching is a great benefit when the trees are grown in sandy soil, preventing the evaporation of moisture needed by the trees. The orchard should be kept thoroughly cultivated until mid-summer, when a cover-crop may be sowed to be plowed under the following spring.

The trees require but little pruning other than thinning out the head or removing injured branches. At planting time the pruning is essentially the same as for the apple—start the tops low, with the limbs from 3 to 4 feet above the ground. Definite details for pruning Plum trees will be found in the instructions given for apple culture.

The greatest enemies of the Plum tree are the black-knot and the curculio. The former is best kept in check by cutting it out, going over the orchard carefully in summer, and again when the leaves drop in the fall. Thorough spraying with Bordeaux for the leaf-blight fungus will also keep black-knot in check.

Curculio attacks the fruit; a small weevil lays its egg in the fruit soon after the blossoms fall; the grub quickly hatches and the plum becomes wormy. In the early morning the weevil is more or less dormant, and will drop when the tree is jarred. A large sheet may be spread under the tree, the trunk given two or three sharp raps, causing the curculio to fall, when it is destroyed. This seems to be the only method of successfully destroying this insect. An apparatus for carrying the canvas can easily be made and wheeled from tree to tree. The first examination for curculio should be made within a week after the blossoms fall.

Thinning the fruit is important if the best quality fruit is to be raised. Many varieties are such free bearers that, unless thinned, the fruit will not develop properly, the quality will not be up to the standard and the tree be weakened. Thinning the fruit is one of the best preventives of spread of the disease commonly called fruit-rot. Plums should be picked a few days before they are fully ripened.

## PLUMS, continued

**Archduke.** Large; black; very prolific and equally good for dessert and kitchen. Early October.

**Bradshaw.** Large; dark violet-red; juicy and good; slightly acid. Tree erect, vigorous, productive. August.

**Empire.** Large; dark purple; quality of the very best. Tree a strong grower and very hardy. September.

**French Damson.** Medium; dark copper. The best Damson for market purposes we have yet fruited. October.

**German Prune.** Medium; purple or black, with a dense bloom; juicy and rich. Tree vigorous and free-bearing. The fruit always brings a high price. September.

**Imperial Gage.** Large, greenish, juicy and delicious; flesh parts easily from the stone. Tree vigorous in growth and productive. Middle of August.

**Lombard.** Medium size; shape oval; violet-red; yellow, juicy and pleasant. Tree unusually vigorous; very productive, and well adapted to light soils. One of the best of the European sorts. September.

**October Purple.** Fruit large; rich, deep blue; good quality and excellent shipper. Tree remarkably vigorous and prolific. October.

**Prince's Yellow Gage.** Medium; golden yellow; flesh deep yellow, rich, sugary and melting; parts freely from the stone. Tree a free grower. August.

**Reine Claude de Bavay.** Large; greenish, marked with red; fine flavor. Tree a free grower and remarkably productive. Fruit hangs on the tree unusually well. Last of September.

**Turkish Prune.** Large; dark purple; firm, rich and brisk. Tree hardy, healthy, upright and productive. September.

## JAPANESE PLUMS

Many valuable fruits and flowers have come to us from Asia, but in many respects the most valuable are the Plums that have been recently introduced from that country. The trees are hardy and perfectly healthy, are remarkably strong and beautiful growers, coming into bearing very early—orchard trees often bearing the second season after transplanting. The Japanese Plums yield immense crops of fruit, which are practically exempt from the attacks of the curculio. In these varieties it is easy to have a succession of fruits, as, by proper selection, it is possible to extend the period of fruiting over about three months.

**Abundance.** Large; amber, turning to a rich, bright cherry; flesh light yellow, juicy, tender and sweet. Tree exceedingly productive. Last of July.

**Burbank.** Large; clear cherry-red; flesh deep yellow, very sweet, with a peculiar and very agreeable flavor. Tree a vigorous grower and very prolific. Middle of August.

**Chase.** (Chabot). Very large; bright reddish purple on a yellow ground; fruit well-flavored and sweet. Tree a good grower, blooming two weeks later than Abundance, and escaping the spring frost; a most abundant bearer. Last of August.

**Hale.** Large; orange, overlaid with mottled red; flesh yellow, very delicious, slightly acid. Tree an upright grower and free bearer. Last of August.

**Satsuma.** Large; purplish crimson; juicy and of fine quality; pit exceedingly small, scarcely larger than a cherry-stone. Tree a strong and vigorous grower. Last of August.

**Red June.** Medium; vermilion-red; flesh light lemon-yellow, firm and moderately juicy, slightly subacid; pit small. Tree upright, slightly spreading, vigorous, hardy and productive. Middle of July.

**Wickson.** Very large; glowing carmine; flesh firm, sugary and delicious; remarkable for its long-keeping qualities. Tree of upright and vigorous growth. Last of August.



Burbank Plums



A Georgia Peach orchard that has received the highest cultivation

## PEACHES

For years we have given special attention to the propagation of Peach trees, and we are undoubtedly the largest growers in western New York at the present time. Our seedlings are grown from natural pits, gathered in the mountains of Tennessee, and are guaranteed to be free from yellows in every respect. We give the selection of buds the greatest care, which assures purity of stock and freedom from disease. It has always been our rule to renew our buds at least every four years, from young, bearing orchard trees, thus insuring their genuineness.

By thorough cultivation, our Peach trees attain a good growth in the nursery without the aid of fertilizers, and form stocky, spreading specimens, with well-developed roots. Our system of low-branching enables the trees in the orchard to be conveniently pruned, easily and cheaply picked, while there is no difficulty in cultivation. The trees supplied our customers are dug, gathered and graded with the greatest care, and are marketed one-year-old from the bud.

In order to show our customers how a Peach tree should be trimmed before transplanting, we have prepared special photographs, cuts of which are shown below. Fig. A represents a one-year-old Peach tree as dug from the nursery and delivered to the customer. Fig. B shows the old method of properly trimming a Peach tree before transplanting. For many years this has been considered enough, but the latest and most approved method of trimming a Peach tree for transplanting is shown in Fig. C, and represents the tree with all branches as shown in Fig. A removed; in fact, the tree is cut off right below the lowest branch. After carefully trimming up the roots, removing all broken roots and, planting it carefully, it will be found that four to five buds will start at the top of the trunk, which will establish a low-headed Peach tree, which can be easily taken care of, sprayed without difficulty, and the fruit easily gathered. This method of trimming and establishing a low head would apply to a single tree as well as to an orchard planting, and can be done by an amateur grower.



Fig. A. One-year Peach tree, as delivered to customer



## PEACHES, continued

Probably no other fruit trees require more careful thought and study in relation to pruning than Peaches, and it is our endeavor to give our customers all possible information along these lines.

It is well to remember that the fruit comes from buds that were formed the previous year. It will therefore be easy to see that an entire Peach crop can be destroyed by cutting off the previous year's growth of wood. A limited amount of pruning of the previous year's growth of wood is sometimes necessary in order to thin the fruit; in fact, it is well to do this to a certain extent by cutting off the ends of the limbs, which causes them to branch and become more stocky, thus preventing the fruit being borne on long, angling limbs which are so easy to break or split off. Another result of such pruning is that the tree will make more bearing wood for the next year, and the fruit is kept nearer the ground where it is easier to gather.

The pruning may also be made to serve as a thinning process, for there is a very general neglect of this part of Peach culture. Prof. Bailey says that "no two Peaches should stand closer on the same branch than 5 or 6 inches." Peach trees that are regularly thinned should bear every year—unless injured by winter or

spring frosts. The thinning of the fruit by hand may be delayed until after the "June drop," for the fruit will then be of a size easily handled.

Peach trees will thrive on almost any soil, providing the climate and location are congenial. The best Peaches are grown on land that is light and sandy, although they may be raised on heavy land if they are planted some distance apart and pruned to open tops to admit the sun.

The orchard should be given the very best care, both in cultivating and fertilizing. The proper fertilizers for Peach orchards contain potash, and phosphoric acid, with a minimum amount of nitrogen. Ashes, muriate of potash and bone fertilizers, are among the best for Peaches. A too generous use of barnyard manure tends to produce too much wood, especially on heavy lands.

Frequent cultivation of the soil from May until August, with a late cover-crop to be plowed



Fig. B. Showing Peach tree trimmed according to the old method in preparation for transplanting.



Fig. C. Showing latest and best method of trimming a Peach tree before planting. This forms a low-headed tree from the top three or four buds.



Elberta Peach



## PEACHES, continued

under in the spring, is a good general plan of tillage. A Peach orchard should never be seeded down nor should grain be sowed therein.

The distance for setting the trees may vary in different soils and with different growers.



Mayflower Peach

However, the usual plan is to set the trees from 16 to 18 feet apart each way; at this distance they may be cultivated easily, and may not require a close heading-in. Some growers plant closer, and by tillage and fertilizing force the trees to bear when small; thus, by the time the trees begin to crowd, the financial returns will permit some trees to be removed.

The two most serious insects pests attacking the Peach are the borer and the curculio. Suggestions for combating the latter are given in the plum section of our catalogue. The borer generally works in the tree near the surface of the ground. The remedy is simple; in September or October the earth should be drawn back from the tree, and wherever a hole is discovered in the bark or gum is exuding, cut away the bark until the borer is exposed. The operation should be repeated in May or June, as one examination is hardly sufficient.

## MULCHING

It is very important in transplanting all kinds of fruit and ornamental nursery stock to see that a proper mulch is provided. The object of mulching is to conserve the moisture in the soil by preventing or hindering evaporation. When it is impracticable to keep the surface

mulch by means of tillage with horse-tools or a rake, it is advisable to use straw, coarse stable manure, or dead leaves. Soils which are covered with a mulch do not bake. If the best results are to be obtained in transplanting young nursery stock, one of the most important features is proper mulching.

**Belle of Georgia.** Very large; greenish white, with red cheek; flesh white, firm and of excellent flavor. Tree a rapid grower and very productive. Early July.

**Carman.** Large; yellowish white, dotted and blushed with red; flesh tender, creamy white, with red tinge, of a slightly vinous flavor. Free from rot. Middle of August.

**Champion.** Large; cream-white, with red cheek; delicious in flavor, sweet, rich and juicy. Hardy and productive; a good shipper. Early August.

**Chase's Early.** Medium; yellowish white, covered with delicate pink; flesh white, juicy and rich. Tree hardy and healthy, and an early and prolific bearer. July.

**Chair's Choice.** Large; deep yellow, with red cheek; flesh yellow, firm. Ripens in Oct.

**Crawford's Early.** Large; yellow, with red cheek; flesh yellow, sweet and luscious; free-

stone. Tree exceedingly vigorous and prolific. Ripens first of September.

**Crawford's Late.** Large; superb yellow; flesh of fine quality. Tree very productive. Last of September.

**Crosby.** Medium; color bright yellow, beautifully splashed with crimson; flesh light yellow and red at the stone, firm, moderately juicy and of good quality. September.

**Early Canada.** Large; fruit of fine quality and beautiful appearance. Tree is unusually hardy. Early July.

**Elberta.** Large; yellow, with red cheek; flesh yellow, juicy and of high quality. Tree hardy and productive; freestone. September.

**Fitzgerald.** Large; bright yellow, suffused with red; flesh deep yellow, of fine quality; small pit, perfectly free. Tree comes into bearing early; very productive and hardy. Early September.

## PEACHES, continued

**Foster.** Large; yellow; good quality; resembles Crawford's Early. Tree vigorous and prolific; uniform in size; freestone. September.

**Frances.** Large; deep yellow, with brilliant red cheek; flesh firm, juicy and rich. Tree vigorous, hardy and very productive; profitable market sort; freestone. Early August.

**Greensboro.** Large; crimson, with a yellowish cast; flesh-white, very juicy, and extra quality for an early Peach; ripens perfectly to the pit, from which it parts freely when fully matured. The best extra-early. July.

**Hill's Chili.** Medium; yellow, shaded with dark red; flesh half-melting, sweet, of medium quality. Hardy and good bearer. September.

**Iron Mountain.** Fruit very large; white; freestone; quality good; very hardy in bud; white inside at pit. September.

**Klondyke.** Large; skin white, covered with rich blush; flesh firm and pleasant. Tree vigorous and productive; freestone. October.

**Mayflower.** It is the earliest Peach known, and therefore extremely valuable as a market variety. In color it is practically red all over, even before it is ripe enough to ship. A strong, thrifty grower and an abundant bearer.

**Mountain Rose.** Skin whitish, nearly covered with dark red; flesh white, juicy and very good. Tree vigorous and productive; freestone. Excellent early sort. First of August.

**Morris White.** Medium; dull creamy white, tinged with red; flesh white to the stone, juicy and delicious. Tree a moderate bearer. This

variety is especially good for preserving. Middle of September.

**Niagara.** Large; beautiful and luscious. An excellent shipper. In Niagara county, N. Y., where it originated, it has borne heavy crops of uniformly large fruit every season since its introduction, and it has shown complete freedom from blight and other forms of decay. Early September.

**Oldmixon Freestone.** Large; greenish white and red; flesh pale, juicy and rich. Tree hardy and productive. A valuable variety for all purposes. Middle of September.

**Reeves' Favorite.** Large; yellow, with red cheek; flesh yellow, red at the stone, juicy and melting. Hardy and vigorous; freestone. Sept.

**Steven's Rareripe.** Large; yellow, highly colored; flesh white, juicy and high-flavored; tree very productive and unusually free from disease; a strong grower. Middle of September.

**Stump the World.** Large; red and white; flesh white and of fair quality. Very productive. End of September.

**Triumph.** Large; yellow, nearly covered with red; flesh bright yellow; free when fully ripe. Tree a strong grower, blooms late with large flowers, and is an early and abundant bearer. A superior variety. July.

**Waddell.** Large; yellow; flesh firm, rich, sweet and melting; free from rot and a good keeper. Tree a vigorous grower, very productive and very hardy in wood and fruit bud; freestone. July.

**Wheatland.** Large; skin golden yellow, shaded with crimson; flesh yellow, firm, juicy, sweet and of fine quality. Tree a stout and sturdy grower; a great bearer; excellent shipper; fruit freestone. Ripens about the middle of August.

**Willett.** Very large; yellow and dark red; flesh yellow, juicy and rich. Fine, strong grower and a free bearer; freestone. Last of September.

**Wonderful.** Large; a golden yellow, overspread with vivid carmine; flesh yellow, rich, high-flavored and delicious; exceedingly firm. Tree a vigorous grower. First of October.



Wheatland Peaches



Early Moorpark Apricots

## Apricots

The Apricot is a most delicious fruit, and is especially desirable because its season of ripening comes between that of cherries and peaches, usually about a month before the early peaches. The trees should be planted in a well-drained, deep soil, that has been well fertilized. The trees are hardy, and will thrive in the same localities and under the same general cultivation.

The Apricot may be trained in Espalier form, covering a house wall, a fence or trellis, thus requiring comparatively small space. The curculio seems to be especially fond of the Apricot, and as the fruit sets early prompt measures must be taken to destroy the pest. The method is the same as used for plums and peaches, but the work should be even more thoroughly done than on those trees. The process should commence when the blossoms fall and continue for several weeks.

Aside from this difficulty, which is readily overcome, there is no reason why Apricots should not be very profitable fruit. The varieties we offer are especially grown for our trade and will thrive in very severe climates.

**Alexis.** Very large; yellow, with red cheek; slightly acid, rich and luscious. Very hardy, and abundant bearer. July.

**Early Golden.** Small; pale orange; juicy and sweet. Hardy and productive. Early July.

**Early Moorpark.** One of the largest and finest Apricots. Yellow, with red cheek; flesh orange, sweet juicy and rich; flavor of the finest, making it a superior kind; parts easily from the stone. Very productive. July.

## Quinces

The Quince has attracted much attention in the past few years as a market fruit. The tree is hardy, compact in growth, and requires but little space to make a profitable specimen; it is shallow-rooted, therefore deep plowing should be avoided, but cultivating and fertilizing are just as essential as with the peach or plum. Cowpeas, soy beans, and crops that can be worked into the soil with a harrow are desirable for a summer cover crop, furnishing nitrogen and other fertilizing elements needed by the trees.

Quinces will thrive in any good garden soil, but for commercial purposes the soil should be a moderately heavy clay loam, well drained. The best orchards are found on lands that are naturally or artificially drained. On sandy soil the trees grow freely, and come into bearing quickly, but are not so long-lived as on heavy soil. On heavy soils set the trees from 12 to 15 feet apart each way, but on light soil they may be set as close as 10 feet.

Quince trees come into bearing early, yield freely and regularly. The fruit is desirable for canning purposes; one quart of Quinces to four quarts of other fruit will impart a delicious flavor to jellies and preserves.

**Bourgeat.** Large; golden yellow; very tender when cooked. The fruit can easily be kept until January. Bush is a strong grower, bears very young, and yields immense crops. October.

**Orange.** Large; golden yellow; cooks tender and is of excellent flavor. Very productive. September.

**Rea's Mammoth.** Large; bright yellow; flavor very pleasing. Tree a hardy and healthy grower; very productive. September.



Bourgeat Quince



Section of a trellis of Grapes showing practical method of training the vines

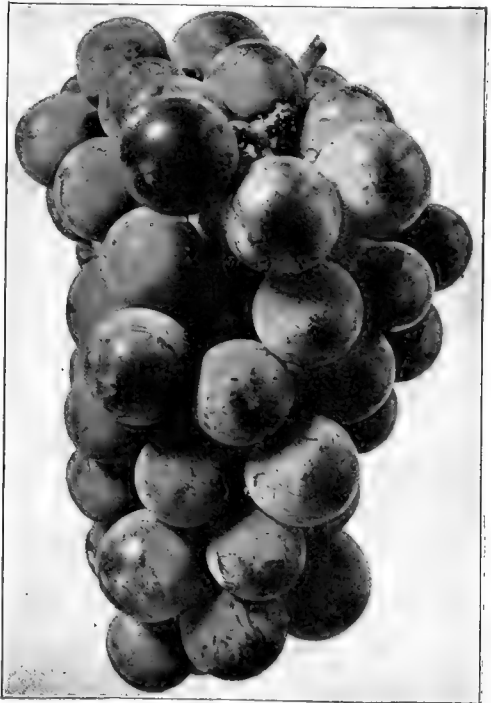
## GRAPES

Grapes are universally considered one of the most healthful of fruits. They can be grown by every one who has a garden, a yard, or a wall, for the vines can be trained over an arbor, bound to a trellis or fence, or extended until they cover the side of a building. Every home-place, no matter how small, should have two or three vines. While the vines have their likes and dislikes as to soil, they never insist on them, and will grow almost anywhere.

As a commercial venture, Grapes offer many advantages. They show large returns on the investment, as on all markets they meet with a ready sale, and bring good prices. While results of the most favorable character may be procured from Grapes when grown under proper conditions; they are likely to be very disappointing under improper culture or neglect. Satisfactory yields in Grape-culture can be secured only by close attention and forethought. Full directions for the pruning and culture of Grapes will be found in our new book on fruit-growing, "Trans-planting and After-care," but a few words may not be amiss here.

In vineyard culture the soil should be dry, and if not so naturally should be drained. Almost any soil will produce good Grapes unless it be one that contains a liberal supply of available nitrogen. If the field is in sod, plow into lands of about 9 feet wide, and set the plants in the bottom of the dead furrow. The plants should stand 8 feet apart in the row. Be particular to have the plants set in a straight line on account of the trellis, which is to be erected latter, as well as for convenience in future cultivation.

Beginning with good, strong vines, such as those from the Chase Nurseries, allow them to grow the first season without pruning. About the first of December cut back the growth, leaving three or four buds only. In the spring allow only two of these buds to put out shoots; these, in the fall, will be about 10 feet long, and may be cut back to within 4 or 5 feet of the root. The following spring the vine should be fastened to the lower part of the trellis, and as growth begins, pinch the buds off, so that the shoots will be from 10 to 12 inches apart. As these grow, train them



Concord Grapes

## GRAPES, continued

perpendicularly to the upper bars of the trellis. Allow no fruit to form above the second bar.

When the shoots have reached the upper part of the trellis, they may be pinched off. In autumn, after the leaves have fallen, cut the canes back to two buds; the next spring allow only one to throw out a shoot, and treat as in the previous year.

This is a summary of a practical method of pruning, and one that is followed by the most successful vineyardists. It should be borne in mind that to obtain the best results annual and careful pruning is essential.

**Agawam** (Rogers' No. 15). Dark red; bunches loose; berries very large; skin thick and a good keeper. Flesh tender, meaty and juicy, of rich, aromatic flavor. Vine a strong and large grower. September.

**Brighton**. Coppery red, becoming purplish; bunches large and loose; berries large, vinous, rich, sweet and of the best quality; ripens early. Vine productive and vigorous, sometimes subject to mildew. September.

**Campbell's Early**. Black, with purple bloom; clusters and berries large and perfect; flavor rich and sweet, slightly vinous; an admirable keeper and shipper. Vine strong, vigorous and productive. September.

**Catawba**. Coppery red, purplish when well ripened; bunches large and loose; berries large; flavor vinous and rich. Productive, but uncertain except in favored locations. October.

**Concord**. Black, covered with bloom; bunches large and compact; berries large; skin tender, juicy, sweet and buttery. Vine very hardy, productive and reliable; healthy

foliage; succeeds well over a wide territory. September.

**Delaware**. Light red, with violet bloom; bunches compact; berries small, sweet, sugary and vinous, with musky aroma. The vine is comparatively slender, but grows freely and is perfectly hardy.

**Diamond**. Delicate greenish white, with yellowish tinge; bunches large and compact; berries round, very few seeds, juicy and free from pulp. Vine vigorous and hardy; foliage clean; an ideal variety for the vineyard. Early September.

**Empire State**. White, with very light tinge of yellow; bunches large and shouldered; berries medium to large; flesh tender, sweet and sprightly. Vine vigorous, healthy, productive. September.

**Green's Early**. White; bunches large and very compact; berries large, of good quality. Vine vigorous, hardy and productive. The earliest white Grape. Last of August.

**Hartford Prolific**. Black; bunches large and rather compact; berries large and round; skin thick; very early and reliable. Vine hardy and profuse bearer. Early September.

**Moore's Early**. Black, with heavy blue blooms; bunches medium; berries very large and round; flesh pulpy and of medium quality. Hardy. Moderately prolific. First of Sept.

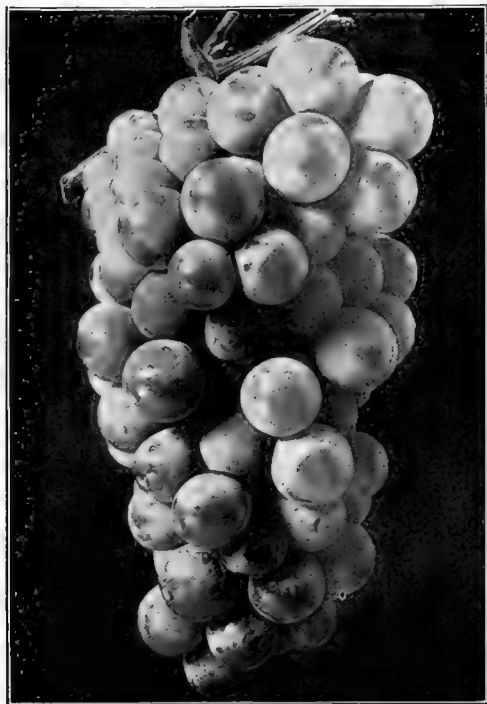
**Niagara**. Pale green, changing to pale yellow; bunches medium to large, compact; berries large; flesh slightly pulpy, tender and sweet. Vigorous, healthy and productive. Early Sept.

**Pocklington**. Light golden yellow; bunches medium and very large; flesh juicy and of good quality. Vine hardy, healthy and productive. Must have favorable season and good location to ripen satisfactorily. September.

**Salem** (Rogers' No. 53). Coppery red; bunches large and compact; berries large; flesh tender, juicy and of fine quality. Vine healthy and productive. September.

**Wilder** (Rogers' No. 4). Black; bunches very large; berries round and large; flesh tender juicy, sweet and slightly aromatic. Vine vigorous and a good bearer. September.

**Worden**. Rich glossy black; bunches large and handsome; berries large; sweet and lively. Vine thrifty and vigorous, perfectly hardy and a good bearer. September.



Niagara Grapes



A profitable field of Blackberries, showing the results of careful cultivation

## SMALL FRUITS

Fresh fruit may be considered one of the necessities of life—the human system needs it as a food and as a medicine. Beginning with the luscious strawberry, and followed almost at once by the bush fruits, one finds all of them desirable and appetizing—far better, too, when picked in your own garden, damp with the dew of the morning, than when you are obliged to purchase from a corner grocery or of the street huckster.

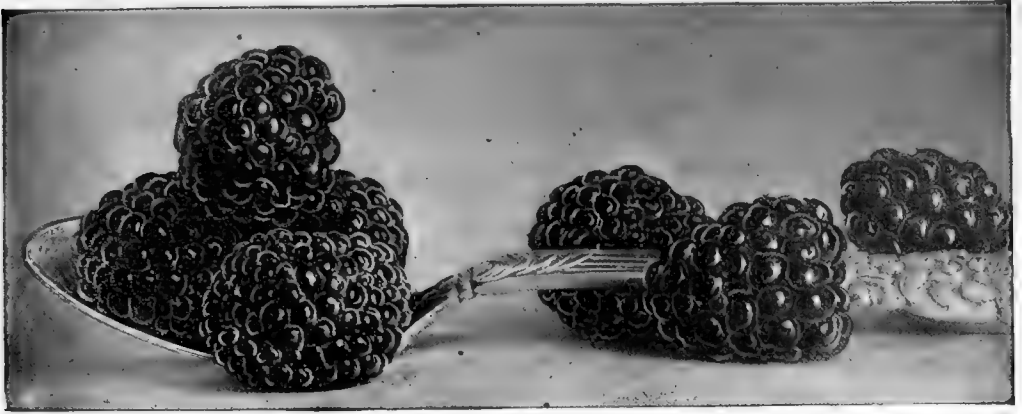
Even the little yard of the city dweller can be made to produce small fruits in quantities sufficient for a small family, thus contributing to the health and pleasure of all, as well as reducing the cost of living; for by producing his own fruits the grower escapes the high prices demanded in the market. A small outlay will purchase an assortment of small fruit plants that each year will produce more than enough delicious, wholesome fruit to repay the cost of the plants. The plants from the Chase Nurseries will thrive almost anywhere, and yield bountifully; in fact the quantity will be sufficient to supply the family with an abundance of fresh fruit during the season, and furnish a liberal amount for preserving.

The man who undertakes small-fruit growing as a business has a great opportunity. The markets are never fully supplied and the prices are always high. Small fruits bring quick returns; you do not have to wait five or ten years for the first crop, and if planted as fillers in the orchard they will bring profits from the land the second year. There is no better investment than small fruits when grown in connection with orchard fruits, such as peaches, apples, etc.

Generally the small fruits require a deep, rich, loamy soil; but a soil that will produce good miscellaneous farm crops will be suitable for these fruits. Deep plowing, the deeper the better, is important. The land should then be fitted as for corn, potatoes, or other root crops. Fertilizing with stable manure worked in about the roots, clean cultivation, and careful pruning, will increase the yield, the size, and the quality of the fruit. Good care, with small fruits, as with all others, is repaid many times over in actual cash returns.

Small Fruits at Chase Nurseries are given the same careful attention and skillful cultivation that is bestowed on our fruits trees. The plants are examined for signs of disease or scale, and if such are found, which is rare indeed, the affected plants are at once destroyed. We intend to send out only clean, healthy plants, free from scale or pests of any kind, and to this end we have constructed a scientifically planned fumigating house, where not only small fruits, but every tree and shrub, are treated with hydrocyanic acid gas before shipment.





Cumberland Raspberries, as compared with Snyder Blackberries

## Raspberries

There are two classes of Raspberries, the red varieties and the blackcaps. The former are reproduced by suckers and root cuttings; the latter from the tips. The red varieties succeed in almost all soils, but do not thrive so well in heavy clay as in lighter ground. A heavy soil suits the blackcaps better than a sandy one. Red Raspberries can be planted in the fall or spring with success, but the black varieties should be planted in the spring only. To guard against injury by freezing, it is well to protect the canes with straw; or they may be laid down in autumn and covered with a few inches of earth, leaves, litter, or evergreen boughs.

### BLACK RASPBERRIES

**Alden.** Large; bright black; remarkably firm. Hardy, vigorous and productive.

**Cumberland.** Very large; black; of fine quality. A hardy and vigorous grower; exceptionally productive and a good shipper.

**Gregg.** Large; black; of good quality. A hardy, vigorous grower and prolific bearer.

**Johnston's Sweet.** Large; deep black; firm; sweet and delicious. Of great value for evaporating and canning.

**Munger.** Large; black. Very productive, ripening late in the season; quality good.

### RED RASPBERRIES

**Cardinal.** Large; reddish purple, remarkably fine. A heavy bearer and excellent for shipping purposes.

**Columbian.** Large; pale red; rich flavor. It is one of the best varieties for canning purposes, retaining its color, flavor and form remarkably well. The plant is a strong, robust grower, unusually hardy and very productive.

**Cuthbert.** Medium; deep rich crimson; very

firm; sweet and good. Vigorous grower, very productive and perfectly hardy.

**King.** Medium, round; light crimson; moderately firm and of excellent quality. This is the earliest red Raspberry, and unites high quality and good color, productiveness and hardness.

**Loudon.** Large; beautiful deep red; of good quality. Bush vigorous, productive and very hardy. Fine for shipping, holding its form well under the most trying conditions.

**Miller Early.** Large; bright red; very good. Bush hardy, healthy and productive, succeeding on a variety of soils.

**Marlboro.** Large; light crimson; good quality and firm. Hardy and productive. The best early red for the North.

**Souhegan.** Large; dull purple; soft, luscious and of rich, sprightly flavor. Not good for market purposes, but fine for family use, and one of the best varieties in cultivation for canning. Ripens late.

**Shaffer's Colossal.** Large; purple; soft, with subacid flavor. Plant hardy, vigorous and productive. Medium to late.

**MULCHING.** It is very important in transplanting all kinds of fruit and ornamental nursery stock to see that a proper mulch is provided. The object of mulching is to conserve the moisture in the soil by preventing or hindering evaporation. When it is impracticable to keep a surface mulch by means of tillage with horse-tools or a rake, it is advisable to use straw, well-rotted stable manure or dead leaves. Soils which are covered with a mulch do not bake. If the best results are to be obtained in transplanting young nursery stock, one of the most important features is proper mulching.



## Blackberries

Blackberries may be successfully grown wherever raspberries can be cultivated to advantage. They are an excellent and profitable plant. For garden culture, plant about 4 feet apart, rows 5 feet apart. For field culture, to supply market demands, plant 3 feet apart, rows 6 feet apart.

**Early Harvest.** Medium; deep glossy black. The earliest Blackberry to ripen. Requires close pruning and high culture.

**Erie.** Large; jet-black; quality good. Ripen early. Healthy, productive and hardy.

**Eldorado.** Medium; black; melting, sweet and rich. Plant hardy and very productive.

**Lucretia Dewberry.** A trailing form of the Blackberry. Fruit of good size; carries well. Ripens between the raspberry and blackberry. Bush hardy, vigorous and productive. In many sections it is extensively planted for market.

**Mercereau.** Very large; brilliant black, holding its color under all conditions; is especially sweet, rich, melting and luscious. Strong, vigorous, and an enormous yielder. The hardiest of all Blackberries.

**Rathbun.** Extra large; jet-black; quality good; juicy, sweet and delicious. A strong, erect grower, and very hardy. Carries well.

**Snyder.** Medium; sweet and melting to the core. Very hardy and wonderfully productive.

**Taylor's Prolific.** Large; of fine flavor. Canes of strong growth and iron-clad hardness.

**Wilson's Early.** Large; very black; firm, rich, sweet and good. Ripens early and matures all its fruit rapidly. Bush tender.



Early Harvest Blackberries

**Wilson, Jr.** Large; luscious and sweet as soon as colored. Plant hardy, vigorous and healthy. Ripens early.

**Wachusett.** Medium; moderately firm, sweet and good. Likes fair soil and good culture.

## Currants

A well-kept plantation of Currants will yield 4,000 pounds of fruit to the acre. Currants may be planted to advantage between the fruit trees in the orchard, and a large yield secured at small cost. Currants are perfectly hardy, and can be successfully planted in fall or spring. To destroy the currant worm, dust the plants with hellebore, when they are wet with dew.

**Cherry.** Large; dark red; acid and not very rich; bunches short. Plant vigorous and productive.

**Fay's Prolific.** Large; red; long bunches. Exceedingly productive. The fruit is of fine quality.

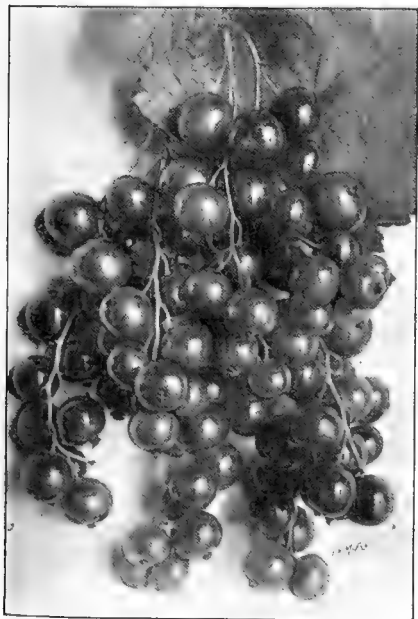
**Lee's Prolific.** Large; black; fine quality; productive.

**Perfection.** Large; bright red; rich, melting, subacid, plenty of pulp, with few seeds. Very productive.

**White Grape.** Large; yellowish white; very mild acid. The best table variety.

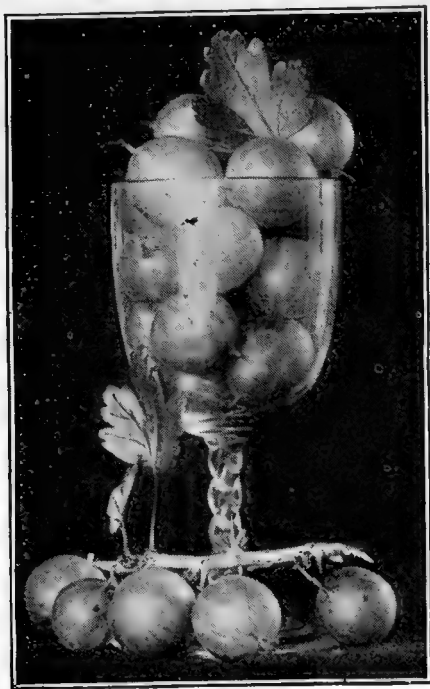
**White Imperial.** Large; white. Noted for its excellence as a table fruit. Bush vigorous and productive.

**Wilder.** Large; red; rich and juicy. Bush very upright and remarkably productive. Very profitable for market. Ripens late.



Perfection Currants

Mulching is just as important in successful small fruit culture as in growing fruit trees. For suggestions, see page 9



Downing Gooseberries

## Gooseberries

This fruit is exceedingly useful for cooking when green or ripe, and may be canned with much less trouble than some other kinds. It is cultivated more and more extensively both for home-use and market. It requires the same care and treatment as the currant. The American varieties need close pruning every year, but the English kinds require little pruning. The plants may be grown between rows of apple or other trees as a filler.

**Downing.** American. Large; whitish green; soft, juicy and good. Plant vigorous and prolific. Excellent for family use and profitable for market.

**Industry.** English. Large; dark red; rich and pleasing. Plant remarkably vigorous and productive. One of the best English kinds.

**Houghton's Seedling.** American. Medium; pale red; sweet and juicy; free from mildew. A vigorous grower and an abundant bearer.

**Red Jacket.** American. Large; deep red, transparent; excellent quality. Vigorous grower; foliage healthy; not subject to mildew.

**Smith's Improved.** American. Large; light green; moderately firm, sweet and very good. Hardy and extremely productive.

**Whitesmith.** English. Large; yellowish white, slightly downy; of very fine quality.

## Strawberries

Having found it practically impossible to ship Strawberries by freight with our other stock, safely and satisfactorily, we do not catalogue this fruit.

## Esculent Roots

### Asparagus

Asparagus is the earliest and finest of spring vegetables, and is among the most easily cultivated and very profitable. Beds should be made about 5 feet wide, with three rows of plants set 9 inches in the row. Set the plants from 6 to 8 inches deep, covering the crown about 2 inches deep. Asparagus always brings a high price in the market, and, when once planted, a bed will last for thirty years or more if it is given proper attention.

**Conover's Colossal.** Remarkably tender and high-flavored; superior in size and quality to any of the common varieties.

**Barr's Mammoth.** Another improved kind which has many elements of popular favor. Especially good for market-gardeners and those who grow for canning purposes.

**Palmetto.** A very early variety of excellent quality; even and regular in size.

### Rhubarb, or Pieplant

**Myatt's Linnæus.** Without doubt the best variety in cultivation. Stock long and heavy without being stringy or tough. Flavor melting and subacid.



Conover's Colossal Asparagus



Arrangement of Shrubs in front of our office buildings

## Ornamental Department

More and more is it being realized that property, no matter where located, is greatly increased in value if properly planted with shade and ornamental trees. The expense is not to be compared with the added value given to the property, and no better investment can be made.

It is a well-recognized fact that trees and hedges about farm property not only add to the beauty and comfort of the home, but increase the monetary value of the property. Illustrations of this may be found in many localities where well-planted property brings a considerably higher price than an adjoining place that has not been planted, yet the other conditions are equal.

The many ways in which ornamental trees can be used make them one of the most important items in a nursery catalogue. More and more are people coming to love out-door life, and with it comes a deeper admiration for trees and shrubs. This appreciation and love of nature is usually first noted about the home grounds, and is followed by increased interest in city street plantings and parks.

All of the varieties listed here can be transplanted with perfect safety in early spring before new growth has commenced, or in the autumn after the foliage has dropped and the wood ripened. If trees are planted in the fall, the work must be done before the ground freezes, and a heavy covering of leaves, strawy manure or evergreen boughs placed about the trees to protect the roots from being torn by the alternate freezing and thawing of the ground in fall and spring.

While the varieties of trees grown in our nurseries include all of any real value, we have selected the following list with extra care, and believe that it includes only those that are suitable for lawn, and street plantings.

We wish to call the attention of our friends to the fact that comparatively few ornamentals are handsome when delivered, however, even though they have been propagated in the most approved manner and selected with the greatest care. The lack of beauty of form when the stock is delivered does not at all mean that it will fail to grow into graceful shape. Indeed, irregular and straggling growth while young is characteristic of many charming kinds. It should be remembered, therefore, that some varieties will not grow in good shape while in the nursery, but must be planted on the lawn and given time to develop.

Our trade in this department has steadily grown, and, at this time, is of very satisfactory proportions. Our stock of ornamentals is of the very best that can be produced. Only first-class specimens are sent out. There is no other division of horticulture in which quality counts more.



Cut-leaved Weeping Birch

the ordinary Purple Beech in its compact, symmetrical habit of growth, and crimson foliage, early in the spring, changing to dark purple in summer. The finest of all purple-leaved trees.

**Weeping** (*F. sylvatica pendula*). A tree of curious and picturesque form; remarkably vigorous. The long branches are twisted and sweep downward, and when in foliage the tree is fountain-like.

## Birch · Betula

**Cut-leaved Weeping** (*B. pendula lacinata*). A tall, slender tree, which acquires with age, a graceful and drooping habit. The bark is silvery white, the foliage delicately cut, and presents a fine, feathery appearance. A popular weeping tree.

**European White** (*B. alba*). Very ornamental and especially good for planting along water edges. When young, the tree has a dark bark and erect growth, but changes into a white-bark specimen with drooping branches. Very effective in landscape planting.

**Purple-leaved** (*B. foliis purpureis*). A vigorous grower, with purple leaves and white bark. 20 to 25 feet high when fully matured. Like the other members of the Birch family, it is a graceful and hardy tree, and suitable for the lawn.

## Deciduous Trees

Varieties which do not retain their foliage during the winter

### Alder · Alnus

A striking and beautiful tree of graceful habit; stately and fine for lawn planting. Leaves delicate and beautifully cut. Vigorous and very hardy.

### Ash · Fraxinus

**European** (*F. excelsior*). Rapid-growing tree which attains a considerable height, with spreading head. It has gray bark, pinnate leaves and black buds. A fine, hardy tree.

**Gold-barked.** (*F. aurea*). Attractive at all times, but particularly in winter, on account of the yellow bark and twisted branches.

### Beech · Fagus

**Fern-leaved** (*F. heterophylla*). A small tree with wavy, graceful, fern-like foliage, delicately cut, almost to the midrib. When fully grown 25 to 35 ft. high.

**Purple-leaved** (*F. purpurea*). A strong and vigorous tree of elegant habit, with attractive foliage, which changes from crimson to dark purplish green. As a lawn tree, it is of striking appearance, and useful for contrasting effect. 40 to 50 feet.

**Rivers' Smooth-leaved Purple.** Differs from



Weeping Beech

## Catalpa

**Chinese** (*C. Bungei*). An unusual tree introduced from China. Dwarf, with globular head, 8 to 10 feet in diameter. Quite hardy; distinct and useful for lawn planting; foliage large and glossy; rather shy bloomer.

**Western** (*C. speciosa*). Ornamental as a flowering tree and durable as timber; highly valued in the central states; tall hardy, quick of growth, and thrives in almost any soil. The Catalpa flowers in July, when few trees are in bloom. Blooms are large and quite fragrant. Very effective, tropical-looking low trees.

## Flowering Cherry - Cerasus

**Dwarf White-flowering** (*C. humilis fl. pl.*). A pretty little tree with double white flowers, blooming in May. Grows 10 to 12 feet in width.

**Japan Weeping** (*C. rosea pendula*). A compact, weeping tree, so small that it can be used in very limited areas. The drooping branches almost meet the ground and in May they are hung with innumerable delicate pink flowers. At this season nothing surpasses it in beauty, and at all times the foliage is good and the tree is attractive.

**Japan Rose-flowering** (*C. Japonica rosea*). An upright form of the double rose-flowering Cherry from Japan. A small tree with flowers which are double, tinted with shades of rose and pink. Flowers freely in May.

**Large Double-flowering** (*C. alba flore pleno*). Blooms in May, with clusters of peculiar white



Catalpa speciosa

flowers that almost cover the tree. It has good and dense foliage, and is 15 to 20 feet high.

**Red-flowering** (*C. Sieboldii alba plena*). Semi-double flowers, tinged with red. Very desirable because of their early flowering.



Catalpa Bungei

## Chestnut - Castanea

**American Sweet** (*C. Americana*). A widely known native variety. A stately tree with broad leaves; very handsome when in full bloom. Produces fruit of small size.

**Japan** (*C. Japonica crenata*). One of the finest of the imported varieties; entirely hardy. Fruit very large.

**Spanish** (*C. sativa*). Valuable both for ornamental and fruit. It makes a handsome lawn tree and produces much larger fruit than the American variety.

**Paragon**. A Spanish Chestnut which gives unusually large fruit and is highly productive.

## Crab - Pyrus

**Bechtel's Double-flowering American** (*P. angustifolia*). Tree of medium size, covered in early spring with large and fragrant flowers of a delicate pink. The flowers resemble small roses. Blooms quite young.



Avenue of American Elms

## Flowering Dogwood • *Cornus*

**White-flowering** (*C. florida*). An American species, of spreading, irregular habit, growing from 16 to 25 feet in height. The flowers are produced in spring, before the leaves appear, and are from 3 to 3½ inches in diameter, white and very showy. They closely follow the mag-

nolias in bloom and last about two weeks. The Dogwoods are hardy almost anywhere.

**Red-flowering** (*C. flore rubro*). Similar to the well-known American kind, except that the flowers are suffused with bright red. It is one of the very finest flowering trees, and blooms when quite young.

## Elm • *Ulmus*

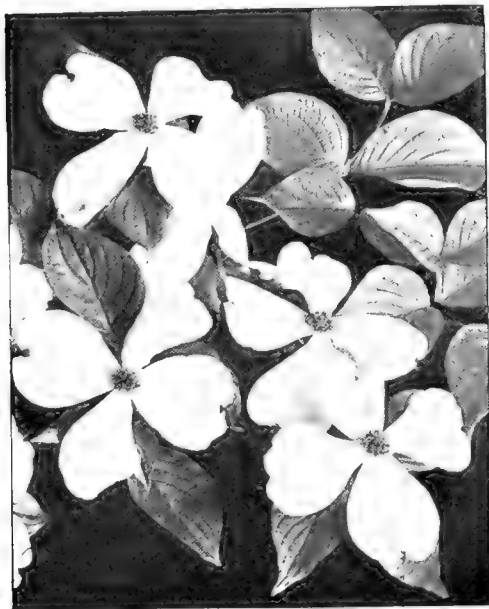
**American White, or Weeping** (*U. Americana*). The well-known native sort, so familiar in New England and which grows well in other sections. It is of rapid growth and unsurpassed for city and suburb planting either as a street or specimen tree.

**English** (*U. campestris*). Equally as fine and imposing as the American variety, but with smaller leaves and darker bark. Adapts itself well to unfavorable conditions.

**Camperdown Weeping** (*U. scabra pendula*). Very progressive and graceful, with long drooping branches. One of the best of the weeping trees. It is of rank growth, with large, dark green and glossy leaves, forming finely shaped head. The foliage is luxuriant.

**English Corky-barked** (*U. suberosa*). A tree of fine habit; young branches very corky; leaves rather small and rough on upper side.

**Huntingdon** (*U. montana Huntingdoni*). Of very erect habit and of rapid growth. A tree of great vigor, with clean and smooth bark.



Flowers of the Dogwood



## Horse-Chestnut • *AEsculus*

**Red-flowering** (*A. rubicunda*). Very showy; of fine, pyramidal habit. Valuable because of the absence of fruit.

**White-flowering** (*A. Hippocastanum*). One of the most desirable trees for lawn, park or street. Beautiful and of regular outline. Exceedingly hardy and free from all diseases. A tree in full bloom resembles an immense candelabra.

## Judas Tree, or Red Bud *Cercis*

**American** (*C. Canadensis*). A native tree of medium size and irregularly formed; beautiful heart-shaped leaves of pure green; very ornamental. Before the foliage appears, it is covered with a profusion of delicate reddish purple flowers. Deserved to be classed among the finest ornamentals.

**Japan** (*C. Japonica*). Deep green, heart-shaped leaves; large, very pink flowers. Valuable as a small tree.

## Laburnum • *Cytisus*

**Common, or Golden Chain**. Smooth and shining foliage, with peculiar chain-like blossoms that are highly prized. It blooms in June.



Judas Tree, or Red Bud

## Larch • *Larix*

**European** (*L. Europæa*). A fine, rapid-growing, pyramidal tree, with drooping branches. Valuable for timber.

## Linden, or Lime • *Tilia*

**American, or Basswood** (*T. Americana*). Grows rapidly to a large size, with very large leaves and fragrant flowers.

**European** (*T. Europæa*). A fine pyramidal tree. Flowers fragrant and leaves of large size.

## Liquidambar

**Sweet Gum, or Bilsted** (*L. styraciflua*). Of medium size and moderate growth; form round-headed or tapering; foliage resembles that of the maple, star-shaped; bark corky.

## Magnolia

**Cucumber** (*M. acuminata*). A beautiful tree attaining a height of from 60 to 90 feet; leaves from 6 to 9 inches long, bluish green; flowers yellow, with purple tint. Fruit when green resembles a cucumber.

**Chinese White** (*M. conspicua*). A tree of small size; flowers, deep and cup-like, waxy. Blooms in April.

**Soulangé** (*M. Soulangiana*). Among the hardiest and finest of the foreign varieties. It has large purple and white flowers, and blooms later than the Chinese variety.



Magnolia Soulangiana

## Maple · Acer

MAPLE, continued

**Ash-leaved** (*A. negundo fraxinifolium*). A rapid-growing tree of erect form. Leaves like those of the ash. It withstands cold and dryness, and is improved by close pruning.

**Japan** (*A. palmatum*). Large-growing shrub, with small leaves of coppery green. Very desirable for planting as a single tree on the lawn.

**Blood-leaved** (*A. palmatum atropurpureum*). Foliage of blood-red color, pretty through all the season. Generally used for planting in groups to obtain a mass of crimson.

**Norway** (*A. platanoides*). Handsome, of large growth, well-formed, round head of spreading branches; broad, deep leaves. Strong, compact and hardy. One of the most desirable for park or street.

**Purple-leaved** (*A. purpurea*). Tree of robust habit; foliage deep green on the upper surface, purplish red underneath. This kind gives a fine effect when planted with golden-leaved trees.

**Sycamore or European** (*A. Pseudo-platanus*). Handsome tree of upright growth; large leaves; bark smooth and color half-gray; 25 to 30 feet. This Maple is especially valuable for planting with other trees.

**Schwedler's Norway** (*A. Schwedlerii*). The young shoots and leaves are of a bright purplish or crimson color, changing to purplish green. This is one of the best of the Maples, with crimson-red and purple tint, which contrasts brightly with the delicate green of spring.

**Red, or Scarlet** (*A. rubrum*). A native tree, doing well in damp positions and conspicuous in spring for its masses of red blossoms, and in fall for its glowing crimson foliage. One of the most popular and ornamental species of Maple.

**Sugar, or Rock** (*A. saccharum*). Pyramidal in form; thrives in almost any soil, growing into a straight and beautiful tree of good proportions. Valuable for sugar and as an ornamental tree. It is especially excellent for solitary or roadside plantings.

**Silver-leaved, or White** (*A. Dasycarpum*). The familiar tree of our village streets. This is a reliable grower in every section, maturing rapidly, but comparatively short-lived.

**Wier's Cut-leaved** (*A. Wierii laciniatum*). A variety of the Silver Maple, with leaves cut more deeply. It has slender branches that droop gracefully, and grows very rapidly.

**MULCHING.**—When transplanting all kinds of fruit or ornamental trees a proper mulch should be provided. Straw, coarse manure, leaves, or litter, are the most practical on a small place, while in the orchard thorough tillage with horse-tools or rake is the best method.



Avenue of Norway Maples



Silver Maple (see page 38)

### Mountain Ash · Sorbus

**American** (*S. Americana*). A tree of medium size, with clusters of orange-colored berries, from midsummer until frost. It is highly ornamental, especially through the fall and winter.

**European** (*S. aucuparia*). A more desirable variety than the American, of finer growth and form. It blooms during the early spring, after which the bright scarlet berries are formed in clusters and remain on the tree until late fall or winter.

**Oak-leaved** (*S. quercifolia*). A hardy tree of fine pyramidal shape. Foliage simple and deeply lobed, bright green above and downy beneath. A fine tree for the lawn. Grows from 20 to 30 feet high.

### Peach · Persica

**Double Rose-flowering** (*P. rosea flore pleno*). Flowers double; pale rose-colored, showy and beautiful in bloom.

**Double White-flowering** (*P. alba flore pleno*). Very ornamental. Flowers pure white and double. Perfectly hardy. Should be planted with the rose-colored kinds for contrast.

### Plane Tree · Platanus

**Oriental Plane** (*P. orientalis*). Leaves heart-shaped at base, deeply cut. Is among our tallest trees, growing rapidly into massive proportions. Hardy and free from disease. It does well in cities and near the seashore.

### Poplar · Populus

**Bolleana**. Recently introduced and of much value. Habit similar to the Lombardy Poplar. Bluish gray bark; dark green leaves, which are white underneath.

**Carolina** (*P. monilifera*). A sure and rapid grower, with heart-shaped leaves that are glossy and fresh-looking. Largely planted in cities and for shade about new grounds.

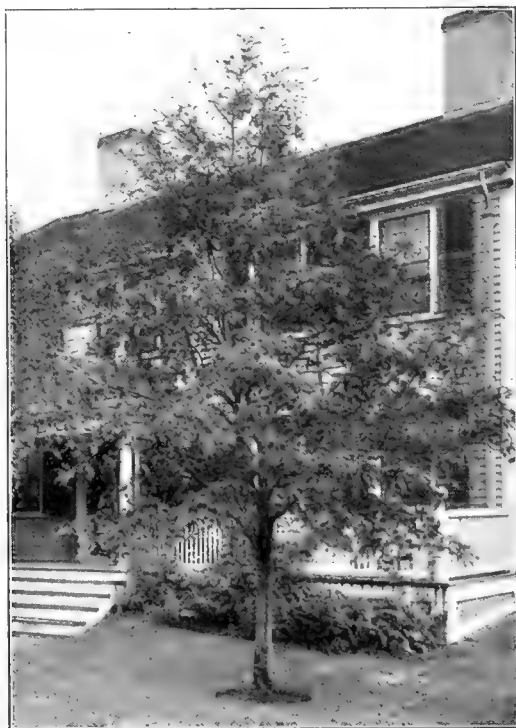
**Lombardy** (*P. fastigiata*). A form which contrasts nicely with the rounded outline of other trees. It branches from the ground, and is valuable for tree-hedge purposes. Attains a height of 100 to 150 feet.

**Silver-leaved** (*P. alba*). Of wide, spreading habit, growing rapidly, and flourishing anywhere. Leaves large, lobed, glossy green above and white as snow beneath.

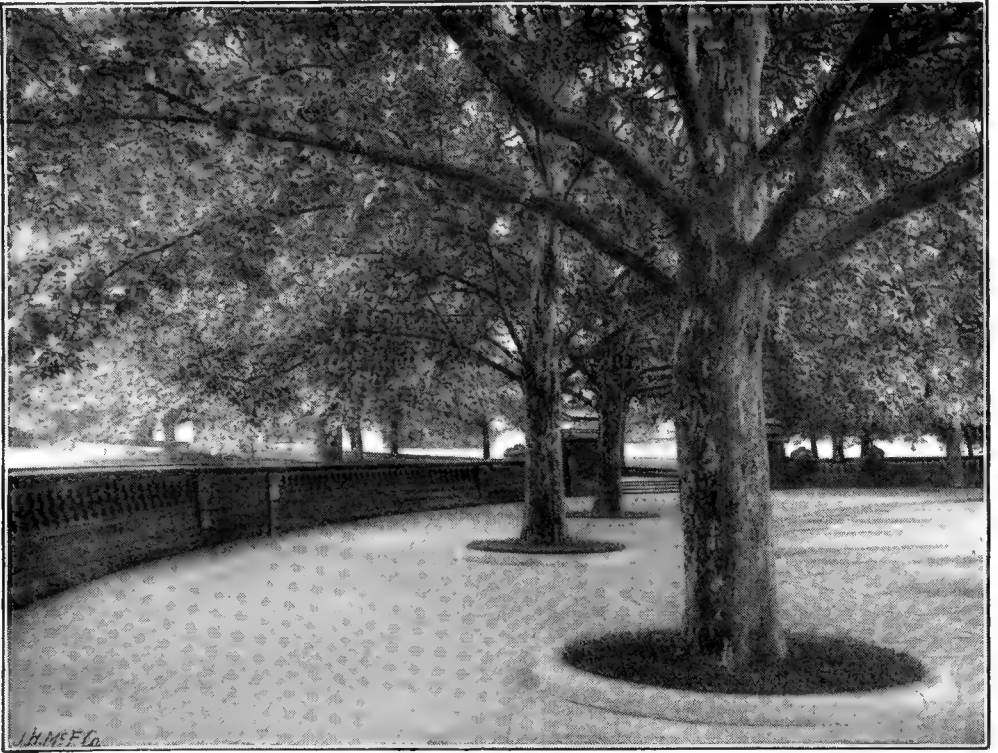
### Maidenhair Tree · Salisburia

**Ginkgo** (*S. adiantifolia*). Remarkable in that it has the characteristics both of conifers and deciduous trees. Beautiful, rich, glossy, foliage, similar to the Maidenhair fern. Tall and upright, of rapid growth, rare and elegant.

Your attention is called to the notes on mulching that appear in this book. This is an important point in successful fruit-growing.



Mountain Ash



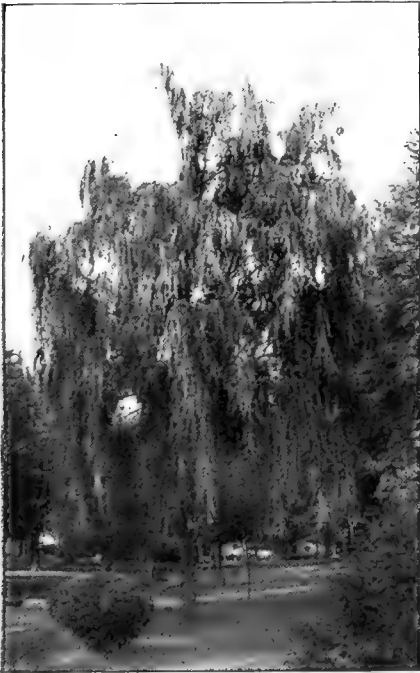
Plane, or Sycamore

### Thorn · Crataegus

**Double Pink** (*C. rosae flore pleno*). Strong and hardy, these dense and bushy little trees occupy but little space and give much satisfaction. They may be trimmed into hedges. Flowering abundantly in May and June, they are fragrant and showy. Blossoms double and rose-colored.

**Double White** (*C. alba flore pleno*). This variety differs from the foregoing only in the color of its flowers.

**Paul's Double Scarlet** (*C. coccinea flore pleno Paulii*). Fine, double crimson flowers. Most conspicuous and attractive when in full bloom.



Weeping Willow

### Tulip Tree · Liriodendron

**White Wood** (erroneously, Yellow Poplar). A large native tree, pyramidal in habit, with broad, fiddle-shaped leaves and tulip-like flowers, produced after the tree has attained maturity. This tree must have room, but is very fine for any open situation. Bark smooth.

### Walnut · Juglans

**Butternut** (*J. cinerea*). A native tree. Size medium, head spreading, bark gray, foliage attractive. Nut oblong and rough.

**Black** (*J. nigra*). Noted for its large size and majestic habits. Bark very dark and deeply ridged; foliage handsome. Nut round and very palatable.



Double-flowering Thorn

## WALNUT, continued

**English, or Madeira Nut** (*J. regia*). Comes from Persia. A handsome tree, larger than the butternut. Nut round and finely flavored.

## Willow • Salix

**Weeping** (*S. Babylonica*). The well-known variety with long branches which droop gracefully and sway with every breeze. It matures rapidly and makes an admirable shade tree. Valuable as a single specimen to contrast with upright trees.

**Kilmarnock** (*S. pendula*). Has unique, umbrella shape, silvery gray leaves and is vigorous in all soils; an exceedingly graceful tree, but likely to grow coarse in extreme age.

**New American** (*S. purpurea pendula*). Pretty and graceful, with slender drooping branches and narrow, silvery gray leaves. Similar in habit to Kilmarnock, but more graceful and generally satisfactory as a lawn tree.

**Rosemary** (*S. rosmarinifolia*). A dwarf Willow of fine growth, with long, silky foliage, white underneath. Very ornamental.

**Laurel-leaved** (*S. pentandra*, or *laurifolia*). A handsome, close-growing tree, or good in bush form. Leaves dark, glossy green and highly ornamental. Excellent for seashore planting. One of the best Willows.



Flowers of the Tulip Tree



## Evergreens

Evergreens are always valuable for landscape work, whether the grounds be large or small, as the great range of varieties and sizes can be made to furnish specimens adapted to all situations. The deep green foliage makes a striking setting for the brilliant colors of all summer flowers.

A carefully selected planting of evergreens greatly enhances the beauty of the home grounds, not only in summer, but in the winter season when the landscape is barren of foliage, and the absence of other color tends to increase the intensity of the rich green of the evergreens and brings out their beauty of form in a most striking manner.

Evergreens are somewhat difficult to transplant and they should never be set in the fall. In planting, the soil should be firmly and thoroughly pressed down in close contact with the roots. Heavy watering at transplanting time and for several weeks thereafter is essential to success.

If the soil about the newly transplanted evergreens is kept mulched with well-rotted leaves, strawy manure or grass clippings, the rapid evaporation of moisture is prevented, and the roots protected from sudden changes of temperature during the winter.

The Norway Spruce stands par excellence among all the evergreens as a windbreak, and makes a superb specimen tree when planted alone. It is one of the most rapid-growing evergreens, and is perfectly hardy anywhere.

Colorado Blue Spruce is also perfectly hardy and one of the most beautiful of the spruces; a striking object in any landscape.

For many years we have given close attention to the propagation and cultivation of evergreen trees, and our present stock comprises a large collection of all the best kinds. We grow and catalogue only those varieties that can be most successfully transplanted, and can recommend and furnish no other sorts than those named herein.

## Arborvitae • Thuya

**American** (*T. occidentalis*). Slender and pyramidal, with soft, flat filaments of foliage. Upright in growth; it is desirable for formal plantings. Can be sheared for hedge purposes.

**Hovey's Golden** (*T. Hoveyi*). A seedling from the American, with heavy golden foliage and quite dwarfish.

**Pyramidal** (*T. pyramidalis*). A strong and

rapid grower; best of its kind; more dense than the familiar American variety. Perfectly hardy.

**Siberian** (*T. Sibirica*). The hardiest of all kinds. Especially valuable for cold climates; dense and shapely; of medium height.

**Tom Thumb** (*T. Ellwangeriana*). Pretty and hardy, with silvery foliage; low-growing and compact. Valuable for small enclosures.



## Fir • Abies

**Balsam** (*A. balsamea*). Very erect and regular, pyramidal in shape; foliage dark green and lustrous above, pale on under side. Grows rapidly and is hardy.

**Nordmann's Silver** (*A. Nordmanniana*). Foliage massive, dark green; a very handsome tree throughout the year.

## Juniper • Juniperus

**Irish** (*J. Hibernica*). A slender tree, very useful for formal planting with other evergreens, and for small yards, rockeries, etc. Erect, dense conical outline; resembles a pillar of green.

## Pine • Pinus

**Austrian, or Black** (*P. Austriaca*). Tree remarkably robust, hardy and spreading; leaves long, stiff and dark green; growth rapid. Makes a large, spreading tree.

**Heavy Wooded** (*P. ponderosa*). The noble Pine of our northwest coasts, where it often attains a height of 100 feet. Perfectly hardy, a rapid grower and silvery green. A conspicuous object wherever planted.

**Scotch** (*P. sylvestris*). Fine, robust, rapid-growing, with stout erect shoots and silvery green foliage; very hardy. Valuable for shelter.



Golden Arborvitæ

## Retinospora • Chamaecyparis

**Green** (*R. plumosa*). Attractive because of its remarkable brightness and delicacy of the foliage tints, and the constant and attractive coloring. This variety is a bright golden, and is especially handsome for contrasts in groups.

**Silver** (*R. squarrosa*). The foliage is feathery, of a rich, steel-blue. One of the most showy and attractive of the class.

**Lawson's Cypress** (*R. Lawsoniana*). Tall and graceful, with bright, grayish green foliage. Very beautiful, but should not be planted in the extreme North.

## Spruce • Picea

**Alcock's** (*P. Alcockiana*). A beautiful tree of close habit; foliage of pale green, silvery underneath. Grows from 80 to 150 feet in height.

**Colorado Blue** (*P. pungens glauca*). One of the hardiest and most beautiful; foliage of a rich blue. It is a strong grower and symmetrical in habit.

**Hemlock** (*P. Canadensis*). A most graceful and beautiful variety, quite different from all others. Branches droop and the dark bluish foliage is very delicate.

**Norway** (*P. excelsa*). Very hardy; of lofty and rapid growth. Very popular for planting as single specimens and wind-breaks; branches sweeping, feathery, graceful.

**Koster's Blue** (*P. pungens Kosteriana*). Now regarded as the best blue Spruce. Its striking color, really blue, makes it very superior.

**White** (*P. alba*). Of medium size; foliage silvery gray; bark like-colored; very hardy and valuable.



Colorado Blue Spruce

## Evergreen Shrubs



Holly-leaved Ashberry

### Ashberry • Mahonia

**Holly-leaved** (*M. aquifolia*). The handsome prickly foliage is deep glossy green in spring, turning to bright bronze in winter. In May little yellow flowers are produced. One of the most popular of dwarf shrubs.

### Box • Buxus

**Dwarf** (*B. suffruticosa*). Invaluable for grouping, edging walks, planting against house foundations and in tubs for formal gardens, terraces and porches. Close-growing, with oval, dark shining foliage. Thrives best in shade.

### Garland Flower

*Daphne Cneorum*

A charming dwarf evergreen; flowers bright pink and fragrant; blooms almost constantly from May until September. Leaves closely set, narrow, glossy.

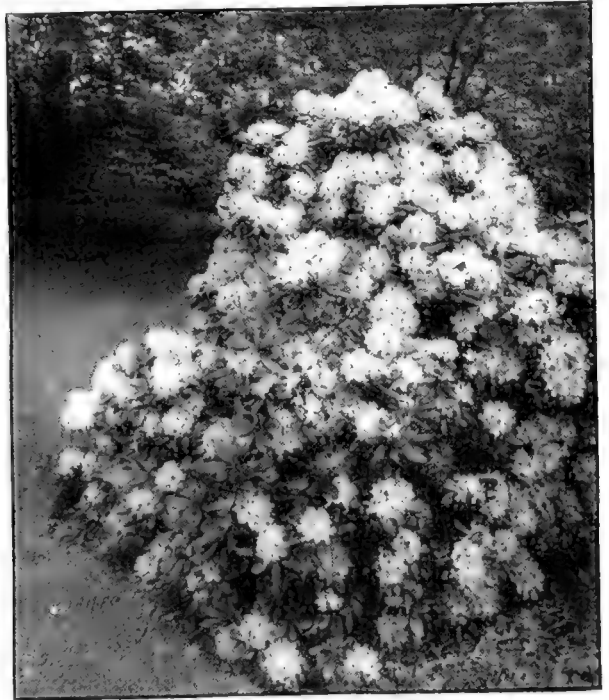
### Mountain Laurel

*Kalmia Latifolia*

Glossy green, shining foliage; bears flowers in large clusters and delicate pink in color. Hardy even in northern New England. Not difficult to grow as a shrub, requiring reasonably damp location, and preferring deep, leaf-mold soil.

### Rhododendrons

Superb evergreen shrubs, producing dense clusters of magnificent flowers, but they require a somewhat shady situation. The flowers, which come in June and July, are of varying colors,—white, red and purple being the most attractive. This beautiful plant comes in a number of varieties, some of them quite hardy, and all well repaying one for the special attention required to secure the best results. No evergreen shrub cultivated in the colder climates is more effective when in bloom than the Rhododendron. The large clusters of flowers almost cover the plant, and the handsome foliage is attractive at every season. It is equally effective as a specimen plant or when planted in masses.



Rhododendrons

**Mulching.** It is very important, in transplanting all kinds of fruit and ornamental nursery stock, to see that a proper mulch is provided. The object of mulching is to conserve the moisture in the soil by preventing or hindering evaporation. When it is impracticable to keep a surface mulch by means of tillage with horse tools or a rake, it is advisable to use straw, well-rotted stable manure or dead leaves. Soils which are covered with a mulch do not bake. If the best results are to be obtained in transplanting young nursery stock, one of the most important features is proper mulching.



*Spiræa Van Houttei* (see page 50)

## Hardy Flowering Shrubs

Ornamental shrubs are important features in the proper planting of grounds where the space is too limited to permit the use of large trees in the landscape plan. Individual specimens have a particular value in such places, and groupings about the foundation walls of the house or about the lawn always add to the beauty of the home grounds; in fact shrubs are absolutely necessary where only the simplest planting effects are desired.

From this list you can select an assortment that will furnish a succession of flowers from the opening of spring, when the forsythia first displays its golden flowers, until frosts come. Likewise a selection of color can be made that will add to the attractiveness of the place, not only when the plants are in bloom, but after the foliage has dropped, for then the brilliant red berries of the barberry, the strawberry bush, the euonymus, and others, will serve to vary the monotony of the winter scene.

Only the simplest cultivation is needed to secure splendid specimens of these hardy shrubs. They will grow in almost any soil—hard clay, loam or sand—and such pruning as is necessary to keep them shapely is all that is required. Most of them should be pruned after the blooming period, as the flower buds for the following spring are formed on this year's growth; hence, if the shrubs are pruned too early in spring much of the bloom will be lost.

In the fall a top-dressing of stable manure may be applied, and forked in about the roots the following spring. If the summer is unusually dry, the top soil should be frequently raked over, and a mulch of straw or grass clippings will be of advantage; these will conserve the moisture and induce a strong growth of plant and healthy green foliage.

*Berberis Thunbergii* makes a fine low hedge for the home grounds. The foliage is small, bright



*Althæa*



Japanese Barberry

## HARDY FLOWERING SHRUBS, continued

green in summer, but changes to a deep red in autumn. For a hedge of 3 feet or more in height the Privet stands pre-eminent. It is hardy everywhere, grows well with little attention, makes a barrier that will turn intruders of all kinds, and is far more ornamental than a fence.

The spireas should never be omitted in the simplest planting. Thunberg's spirea is wondrously graceful in habit, the slender, drooping branches covered with small white flowers forming a veritable "Bridal Wreath." Van Houttei is an upright grower, with pure white flowers. Anthony Waterer is the most desirable for bedding, as it is a low grower, and is covered nearly all summer with crimson flowers.

The shrubs grown in the Chase Nurseries are given just as much attention as any other stocks we catalogue. They are properly cut back to give the strongest growth in the future specimen, and we offer them with the full confidence that they will grow almost anywhere and satisfy any one.



Azalea mollis

### Althea, or Rose of Sharon · Hibiscus

**Double Purple** (*H. purpureus flore pleno*). One of the best of the fine free-growing flowering shrubs. All of the family are very desirable because of their season of bloom—in August and September, when scarcely any other tree is in flower.

**Double Red** (*H. rubra flore pleno*). Another good kind, which will grow almost anywhere from Ontario southward. It is a free grower and not particular as to soil.

**Double Pink and White, Variegated** (*H. variegata flore pleno*). Similar to the above, except in the color of the blossoms.

**Variegated-leaved** (*H. flore pleno folia variegata*). The distinctive

**ALTHEA, continued**

mark of this variety is in the variegation of the leaves, which are white and green; flowers purplish, full and double.

**Meehani** (*H. Syriacus*). Generally admitted to be the best variegated-leaved class. Leaves are white and green; flowers of satiny lavender and single, with purple blotches at the base. Blooms freely from June to autumn. A new variety which has recently been introduced, and quite distinct from other kinds on account of its single flower.

**Azaleas**

**Chinese** (*A. mollis*). Variety red, yellow, rose and orange. There is no more ornamental shrub. It blooms in great abundance during the early spring, even before the leaves appear. Flowers are very attractive and the contrast of colors is striking.

**Almond · Amygdalus**

**Double Rose-flowering** (*A. Japonica fl. pl.*). A beautiful small shrub, flowering freely in May before the leaves appear; blooms double, rose-like and charming.

**Double White-flowering** (*A. Japonica flora alba plena*). Direct and slender branches, completely covered in May with small, very double, fragrant white flowers.

**Barberry · Berberis**

**Purple-leaved** (*B. atropurpurea*). A very rich and ornamental kind, growing from 3 to 5 feet high, with violet-purple foliage and fruit. It is very effective, whether in groups or planted single.



Forsythia.



Deutzia

**BARBERRY, continued**

**Thunberg's** (*B. Thunbergii*). A Japan introduction. Very pretty, dwarf, delicate foliage; blooms beautifully; coppery red in autumn. Grows well in partial shade.

**Sweet-scented Shrub**

*Calycanthus Floridus*

As the allspice of our grandmother's garden, this old-fashioned shrub was a great favorite. It grows well almost anywhere and thrives alike in shade or open. The aromatic fragrance is especially pleasing. Chocolate-colored flowers.

**Pepper Bush · Clethra alnifolia**

**Sweet Pepper**. A sturdy and compact shrub of dense growth, producing slender spikes of fragrant white flowers in mid-summer. It blooms abundantly from July to September.

**Japanese Rose · Kerria**

**Globe Flower** (*K. Japonica*). A shrub from Japan, with bright green leaves, shading, in autumn, to tones of yellow; flowers numerous, bright yellow. In bloom from June to Oct.

**Flowering Currant · Ribes**

**Yellow-flowering** (*R. aureum*). This is prized for its wealth of fragrant flowers in early spring and for its hardiness. Blooms in May; showy yellow blooms. Bright autumn foliage.

**Crimson-flowering** (*R. sanguineum*). Of the same general erect-growing habit; leaves resembling those of the common currant. Profusely covered with rose-colored flowers early in spring.

## Deutzia

The extreme hardiness, clean foliage, and the profusion of flowers make the Deutzias among the most popular of the present-day shrubs.

**Double White-flowering** (*D. candidissima*). Profuse-flowering; generally hardy, and well adapted to ordinary soils. Double pure white flowers, borne in panicles.

**Double-flowering** (*D. crenata*). Flowers white, tinged with rose. Blooms middle of June.

**Slender-branched** (*D. gracilis*). Flowers white; graceful; leaves bright green.

## Pearl Bush

*Exochorda grandiflora*

A hardy flowering shrub of great merit. The branches are slender, the leaves small, and it has very fragrant clusters of pure-white star-shaped flowers. It will attain a height of from 10 to 12 feet and can be trimmed to any desired form.

## Elder · Sambucus

**Golden** (*S. aurea*). A shrub of strong growth easy of culture, ornamental in flower, fruit and foliage. Its bright yellow leaves are attractive throughout the season.



*Hydrangea arborescens sterilis*

## ELDER, continued

**Variegated-leaved** (*S. variegata*). Mottled green and pale yellow leaves are the distinguishing features of this variety. It is excellent for massing and valuable for shaded places.

## Golden Bell · Forsythia

**Weeping** (*F. suspensa*). This familiar hardy shrub comes into bloom just as winter is leaving, and the golden yellow flowers are especially attractive because of the season. This variety is characterized by a graceful drooping habit. Excellent for covering arches, trellises and stone walls.

**Viridissima**. Bark and foliage dark green; beautiful yellow flowers; narrow oblong leaves of bright glossy green.

## Filbert · Corylus

**Purple-leaved** (*C. purpurea*). A conspicuous shrub, with large, dark purple leaves, distinct and fine. The color is permanent.

## Fringe

**Purple** (*Rhus Cotinus*). Sometimes known as Purple Mist, Smoke Tree and Smoke Plant. During middle summer it is covered with loose panicles of curious fringe-like flowers.

**White** (*Chionanthus Virginica*). This superb shrub attains a size from 10 to 20 feet; has a compact and roundish form; large, glossy leaves; drooping white flowers in May and June.

## Honeysuckle, Upright

*Lonicera*

**Fragrant** (*L. fragrantissima*). Blooms in April; small and creamy white flowers of delightful fragrance. Foliage deep green.

**Red Tartarian** (*L. Tatarica rubra*). A well-known old-fashioned sort, which blooms in May and June. It has slender and upright branches with small, bright pink flowers, followed by red or orange-yellow berries.

**White Tartarian** (*L. Tatarica alba*). Same as the Red Tartarian, except in its beautiful white flowers, by reason of which it is fine for planting with other varieties for contrast.





Marie Le Graye Lilacs (see page 50)

## Hydrangea

**Aborescens sterilis.** Superb new variety of the hardy native species found wild generally in the eastern states. Absolutely hardy, of easy culture, and an exceedingly prolific bloomer; flowers extraordinarily large, pure white, remaining intact long after the leaves have fallen. Far superior to the old Hydrangeas; one of the most striking and beautiful shrubs of its season, suggesting the descriptive synonym, "Hills of Snow."

**Paniculata grandiflora.** The one absolutely hardy Hydrangea. It thrives in all soils, grows rapidly, and blooms profusely from July to September. There is no more choice shrub. It is equally valuable for planting singly or in masses; it grows from 10 to 12 feet high, and can be trained as a tree or shrub. The flowers are white, and produced in great panicles a foot or more long, and will remain in good condition until after frosts come.

**Thomas Hogg.** This kind may be planted in the open ground if slightly protected during the winter. The flower is pure white and very satisfactory in every way.

**Otaksa.** Foliage is a deep green; immense clusters of rose-colored flowers are produced in July. Most frequently planted in tubs and vases. Does well in somewhat sheltered places.

## Japan Quince · Cydonia Japonica

An old-fashioned shrub, very ornamental in the early spring, the bright scarlet flowers completely covering the branches before the leaves appear. It has small thorns; good for hedges. One of the best hardy shrubs.

## Lilac · Syringa

The Lilacs are among the most popular of the ornamental flowering shrubs. Hardly a yard in our northern states can be found without a specimen, and the parks of many cities boast of valuable collections—in some cases numbering over 200 varieties. The Lilacs usually bloom the latter part of May. The plants are perfectly hardy under almost all conditions.

**Bertha Dammann.** A single white variety, with flowers in large trusses; a profuse bloomer, and desirable in every respect.

**Cœrulea superba.** A strong grower, attractive and unique, with very large trusses of delicate lilac flowers; hardy and free-blooming.

**Giant Tree Lilac.** A species from Japan. Leaves thick, pointed, leathery and dark. Flowers in very large panicles; creamy white and privet-like. Makes a small tree, and is desirable because of its distinct foliage and late bloom.



Mock Orange

## LILACS, continued

**Large-flowered White.** Very large, pure white trusses of flowers, bush similar in habit to the common purple variety.

**Leon Simon.** A double variety, with compact panicles of bluish crimson flowers. A distinct and very showy variety.

**Marie Le Graye.** Generally regarded as the best white kind. The bush is small and especially adapted for forcing. It produces large panicles of fragrant white flowers.

**Persian.** Grows from 4 to 6 feet, with small foliage and bright purple flowers.

**Common Purple.** The well-known Lilac of the old-time garden, hardy and vigorous; endures neglect and flowers freely. Blooms of medium size; bluish purple.

**Souvenir de la Spath.** A distinct and very beautiful kind. Trusses immense, very compact, of a deep purplish red.

**Villosa.** A Japan introduction. Large and branching panicles; flowers light purple in bud, white when opened and fragrant; blooms two weeks later than the other varieties.

## Plum · Prunus

**Purple-leaved (*P. Pissardii*).** Wood and leaf of a rich, peculiarly vivid dark purple; bright scarlet when young. Flowers small; white.

## PLUM, continued

**Double-flowering (*P. triloba*).** A very pretty shrub, hardy and desirable; flowers an inch or more in diameter, semi-double, delicate pink in color, appearing in May and completely covering the bushes.

## Strawberry Tree · Euonymus

**Strawberry Bush (*E. Americana*).** An erect shrub, with good foliage. The chief beauty consists of the bright red berries hanging in graceful clusters from the end of the branches until mid-winter.

## Syringa, or Mock Orange

## Philadelphus

**Garland (*P. coronarius*).** A well-known shrub of vigorous habit; very hardy; large, handsome foliage, with beautiful white flowers, highly scented, produced very freely in June.

**Golden Mock Orange (*P. coronarius aureus*).** Foliage golden yellow; retaining its lovely color all through the season; white flowers. Good for setting with other shrubs to give contrast.

## Spiraea

**Anthony Waterer.** A low, and compact bush, covered nearly the whole season with deep crimson flowers. Desirable for massing or bedding, as well as single specimens, and can be grown as a pot-plant for house decoration.

**Aurea.** A striking variety of decided beauty. Leaves bordered with golden yellow; branches covered in June with small double white flowers.

**Blue (*Caryopteris*).** Compact, usually 3 to 4 feet high; leaves coarsely toothed, grayish green; bears profusely of lavender-blue flowers in summer and early autumn.

**Bumaldi.** The everblooming Spiraea. Dwarf and compact in habit; leaves bright green, with variegations of yellow; flowers deep pink. Blooms throughout the summer and autumn.

**Callosa.** Has large panicles of deep rosy blossoms; blooms nearly all summer and is a very free grower.

**Prunifolia.** Pure white flowers, resembling daisies, blooming in May and remaining on for weeks. Very hardy and of dwarf habit.

**Reevesii.** Flowers white, quite large, borne in clusters, entirely covering the plant; blooms in June. Leaves narrow and pointed.

**Thunbergii.** Dwarf in habit, with graceful form; slender and drooping branches; narrow yellowish green foliage; small white flowers. Among the earliest of the Spiraeas to bloom.

**Van Houttei.** An upright grower; flowers pure white; borne in dense clusters along the full length of the branches; very hardy.

## Snowball · Viburnum

**Common** (*V. sterilis*). A well-known shrub of large size; bears globular clusters of pure white flowers the latter part of May.

**Japan** (*V. plicatum*). Moderate in size, of compact habit; leaves distinctly crinkled, flower-balls very solid, white and handsome. Blooms later than the common variety. One of the finest shrubs for which we are indebted to Japan, and superior to the old kind.

## Snowberry

*Symphoricarpos Racemosus*

A popular shrub, with large white berries and small pink flowers, the berries hanging on the plant throughout the winter.

## Sumac · Rhus

**Cut-leaved** (*R. laciniata*). The most ornamental variety of this very useful class of small trees. Foliage deeply cut, giving it a fern-like appearance. As an individual plant, it makes a beautiful specimen. The suckers form a large clump. Chiefly used in massing for landscape effects.

## Tamarix

**African** (*T. Africana*). A beautiful shrub, resembling the juniper, with small leaves and delicate flowers. Handsome foliage; upright habit; flowers in May.



Viburnum (Snowball)



Snowberry

## Weigela · Diervilla

**Desboisi**. Hardy; free-flowering; of spreading habit; very showy. Deep rose-colored flowers.

**Eva Rathke**. Flowers brilliant crimson; a distinct and clear shade; very floriferous. Effective in borders and groups of trees.

**Pascal**. A dark red variety; almost a constant bloomer, producing white flowers in profusion after other kinds have ceased to bloom.

**Rosea**. Very compact in habit; fine rose-colored blossoms, large; showy; blooms in June.

**Variegated-leaved**. Of dwarf habit; flowers nearly white; leaves bordered with yellowish white, making the bush conspicuous throughout the season.

**Van Houttei**. White flowers in clusters one inch in diameter. Its gay-colored foliage contrasts nicely with the green of other shrubs.

**White-flowered**. A vigorous and erect grower, reaching large size; flowers pure white, blooming from June until autumn.

## Winged Burning Bush

*Euonymus alatus*

**Cork Bark**. Dwarf and compact in habit; wood very corky; leaves small; fruit red. The bright green leaves turn brilliant scarlet in autumn.



Honeysuckle

## Hardy Climbing Vines

The comfort and beauty of the home grounds is enhanced fully as much by vines as by shrubs and trees. Vines over the veranda give a welcome shade on a hot day, and, when permitted to clamber at will over the buildings, tone down many abrupt angles. When in bloom the clematis, honeysuckle and wistaria are beautiful, while the foliage is clean and attractive at all times.

All vines in the list are strong, robust growers, requiring little attention other than occasionally to trim them. The ground where they are planted should be deeply spaded; fertilizers should not come in contact with the roots, but a top dressing of well-decayed manure is advisable. The first summer a mulch of clippings or leaves will keep the roots moist and cool, enabling the plants to make a rapid growth.



Dutchman's Pipe

### Ampelopsis

**American Ivy, or Virginia Creeper** (*A. quinquefolia*). A rapid grower, with beautiful dark green foliage, turning to rich crimson in the fall. The conspicuous blooms are succeeded by handsome dark blue berries.

**Japanese, or Boston Ivy** (*A. Veitchii*). Leaves slightly smaller and more ivy-like than those of the American Ivy; overlapping each other, they form a dense sheet of green. The plant should have slight protection the first winter but after that will take care of itself. The roots find nourishment in poor soil and it is a rapid grower. The most popular Ivy for covering buildings and walls.

### Dutchman's Pipe • Aristolochia

**Sipho.** A strong and rapid-growing tropical vine, with magnificent light green foliage; curious pipe-shaped yellowish brown flowers. It will give a quick and dense shade and is splendidly adapted for arbors and trellises.

## Akebia

**Quinata.** Has dark green leaves and purple flowers, blooming in early summer. Grows best in sunny places and is seldom attacked by insects.

## Honeysuckle • Lonicera

**Chinese Twining** (*L. Japonica*). This vine holds its foliage nearly all winter. It blooms in July and September, with a profusion of buds delicately tinted with pink and opening into fragrant pink and white flowers. Very sweet.

**Hall's Japan** (*L. Halliana*). An evergreen variety. Peculiar white flowers changing into yellow; very fragrant. Covered with flowers from June to November; glossy light green leaves.

**Japan Golden-leaved** (*L. Brachypoda aurea reticulata*). Foliage beautifully tinted with yellow; valuable for color contrast with other kinds; flowers cream-colored and fragrant.

**Monthly Fragrant** (*L. Belgica*). In bloom almost all summer; flowers red and yellow; foliage attractive.

**Scarlet Trumpet** (*L. sempervirens*). A strong grower, producing scarlet flowers that continue all summer; leaves bluish green. A very pretty and desirable sort.

**Siberian** (*L. Alberti*). Narrow leaves of bluish color, on slender, drooping branches. The plant is a very pretty little bush with wonderfully attractive blossoms. They are thickly set on the branches, unusually large, of porcelain-blue color, with a very sweet fragrance.

## Ivy • Hedera

**English** (*H. Helix*). Evergreen vine. Thick, green leaves; very popular for an evergreen carpet beneath trees where grass will not grow, to cover buildings, trunks of trees, etc. It grows in almost any soil and is fond of shady places; in northern localities, sometimes winter-kills if exposed to the sun. Should be planted in a northern exposure.

**Variegated-leaved.** Has smaller leaves than the preceding; variegated with white.

## Silk Vine • Periploca

**Græca.** A vigorous high-climbing vine; handsome foliage and fragrant flowers; thrives in almost any well-drained soil; hardy as far north as New York, and may be grown with protection in colder climate; flowers bluish purple; leaves dark green and glossy.

## Trumpet Vine • Bignonia

**Bignonia, or Scarlet** (*B. radicans*). A splendid climber, vigorous and hardy, with clusters of trumpet-shaped flowers. It clings tenaciously and grows rapidly; blooms in August. The only thoroughly hardy variety of this vine.

**Chinese** (*B. grandiflora*). The orange-red flowers are larger and earlier than those of the other kind, and it is a more bushy grower.



Chinese Wistaria

## Wistaria • Glycine

**Chinese Purple** (*W. Chinensis purpurea*). A very rapid grower, sometimes making 20 feet of wood in a single season; bears long clusters of pale blue flowers in late spring and early fall; unusually hardy.

**Chinese White** (*W. Chinensis alba*). Similar in form to the above, except in the color of the flowers, which in this case are pure white. Very effective when planted with the Purple variety.



## CLEMATIS

These vines flower profusely and are the most showy and effective of the hardy climbers. All the kinds we offer are entirely hardy, most of them lavish bloomers. The majority of them will blossom the first season after planting. We deliver the root only. A rich soil of a light, loamy character is the best for Clematis and a little mixture of lime will make it better. Mulching with half-rotted manure at the approach of winter tends to increase the strength of the plants and size of the flowers.

**Alexandra.** Flowers large, pale reddish violet; free grower and a continuous bloomer. June to October.

**Duchess of Edinburgh.** Pure white, double flowers, deliciously scented.

**Fair Rosamond.** Color white, with bluish cast and a wine-red bar up the center of each sepal. Flowers very fragrant, 6 inches across and abundant in early summer.

**Flammula.** Vigorous; slender stems; attains a height of from 10 to 15 feet; leaves dark green; flowers white; blooms in late summer or

early autumn; requires a sunny position. One of the most beautiful small-flowered varieties.

**Henryi.** Flowers large, beautiful creamy white; a robust and free-flowering variety.

**Imperatrice Eugenie.** Flowers of large size, pure white, producing profusely from June to October.

**Jackmani.** Large, deep purple flowers, velvety in their richness; free in growth; an abundant bloomer and strong grower. One of the most common and popular varieties in our list.

**Kermesina.** This Clematis blooms more profusely than any other variety, commencing in early summer and continuing through the season, literally covered with scarlet-crimson flowers. Not subject to blight and a vigorous grower.

**Lanuginosa candida.** Blooms 6 inches in diameter, single, grayish white, turning to pure white. June to October.

**Lawsoniana.** Continuous bloomer; opens a rich rosy purple, gradually changing to a mauve-purple.

**Mme. Edouard Andre.** Violet-red, large flowers, free-flowering and a continuous bloomer.

**Mongolica.** A new early variety, very similar to the popular *Clematis paniculata*. Bears panicles of white flowers, begins to bloom in June and is very pleasing.

**Paniculata.** A strong and luxuriant grower, with handsome green foliage; blooming in August in a sheet of fragrant star-like flowers, delicately scented. The foliage remains fresh and green until early winter.

**Ramona.** An American seedling, strong and rampant grower; very hardy. A free and perpetual bloomer; large and attractive.

**Rubella.** A continuous bloomer; flowers large, color deep claret, giving it a distinct appearance. June to October.

**Star of India.** Very pretty; flowers reddish plum, changing to violet-purple, with red bars in the center of each leaf. A variety of great merit. July to October.

**Viticella rubra grandiflora.** A fine bloomer; flowers large, handsome and rich scarlet-red. July to August.



Clematis Jackmani





Hedge of California Privet

## Deciduous Hedge Plants

Many of the deciduous and evergreen shrubs may be used to advantage for hedges. No fence ever built equals in beauty a well-grown, carefully trimmed hedge, while for screens or defensive purposes they are fully as effective as an expensive iron or wire fence. Then, too, the cost is much less, for the expenses of painting and repairing are avoided—the trimming will only take a few hours once a year, and there are no repairs. The kinds listed below are especially useful in this connection.

### **Berberis Thunbergii**

Small foliage, changing to a deep red in the autumn; desirable for grouping.

### **Dwarf Box**

Hardy evergreen, with bright glossy leaves. Thrives best in half-shade.

### **Japan Quince**

Grows compactly and submits to any amount of pruning; flowers bright.

### **Osage Orange**

Highly esteemed in the West and South. Not hardy enough for Northern planting.

### **Honey Locust**

A very hardy plant, which has been found to be one of the cheapest and best varieties for defensive hedge purposes.

The following shrubs will also be found desirable for ornamental hedging, descriptions of which will be found under "Hardy Flowering Shrubs" in this Catalogue: **Purple Barberry**, **Altheas**, **Spireas**, **Tartarian Honeysuckle**.

### **California Privet**

Rapid-growing; makes a handsome hedge; thornless, thick, glossy leaves, remaining until late in the fall. In general cultivation, and growing especially well along the seashore.

### **Ibota Privet**

A large shrub of upright and compact habit; leaves dark green and glossy; flowers white, in numerous clusters; berries are black with bloom. A graceful shrub.

### **Amoor River Privet**

(*Ligustrum Ibota Amurense*)

Superior to the California variety in that it is evergreen in all except the coldest climates and the highest latitudes. It grows freely, and the fine flowers and berries add greatly to its appearance. Evergreen in the South and nearly so in all sections.



A garden of Roses, the plants for which were supplied by Chase Nurseries

## ROSES

Every garden may be made to give an abundance of Roses in season. Failures in the culture of Roses are almost invariably due to the planting of inferior bushes. Hundreds of thousands of weak and puny hothouse plants are sent out over the United States every year, and comparatively few of them give satisfactory returns in growth or bloom, while our Roses cost more than this inferior stock, we give our customers as much for their money as any firm in the country.

We aim to grow on their own roots such varieties as are strong growers, and which produce a hardy, healthy plant and strong bloom; but all varieties will not do this, and it therefore becomes necessary to grow a good many—in fact the majority of the best sorts by budding or grafting. Roses on their own roots are commonly called “own-root Roses.” These are grown from cuttings which are taken from growing plants, and therefore both the tops and roots are always the same, and there is no danger of suckers or sprouts coming up from the roots. Fig. 1 represents an own-root Rose properly trimmed for transplanting.

Grafted or budded Roses are grown by budding the variety desired on a wild Rose root: This results in a strong, natural, growth, and, if a budded Rose bush is properly planted and cared for, very little trouble is experienced with suckers. Fig. 2 represents a budded Rose, and the letter “A” indicates the point on the original wild Rose stalk where the desired variety was budded. If the plant is set in the ground 3 inches below this bud point, little danger will result from suckers; if the plants are carefully watched and the suckers cut back, when they do appear, no harm whatever is done to the plant. It is, however, very essential that a budded Rose be planted deep enough. We do not guarantee to supply own-root Roses of any variety, but we do guarantee that all Rose bushes grown by us are strong, hardy plants, which, if properly cared for, will produce excellent bloom.

In planting a Rose bed the plants should be set 12 to 15 inches apart and the holes should be dug large enough to allow the roots to spread out in their natural position. Cover the roots with fine, moist soil, being careful to work it around and under the plants so that there may be no vacant spaces. Press firmly down on the roots with the feet.



Fig. 1. Rose bush on its own roots properly trimmed for transplanting

## ROSES, continued

This is very important, as, if not done, the plants are liable to dry out before they can make a start. Inasmuch as Roses bloom on the present season's growth, judicious pruning is essential, as any treatment that encourages vigorous new growth is sure to increase bloom. If winter protection is necessary, a good plan is to hill the earth up around the bush 3 or 4 inches, then cover the entire bed with dead leaves. In the early spring, before the sap starts, cut off all dead tips.

Hardy, field-grown Roses, such as we supply, may be planted either in the fall or the spring, and if fall planting is practised, special care should be taken to set them deep enough and tread the earth down firmly on the roots.

The Roses we list are divided into four general classes: Hardy, Tender, Climbing and Moss. The hardy varieties include Hybrid Perpetuals, or Remontants—the varieties which usually bloom profusely during June and occasionally through the summer and autumn; Austrian, the variety of yellow Roses which bloom but once in a season, and all other kinds which will live out-of-doors without protection throughout the winter. These are all suited for the garden and thrive best in the open air, none of them requiring winter protection.

The varieties in the tender class include Teas, Bourbons, Bengals or Chinas, Noisettes, and all the kinds which are suited for open ground or house culture, not named in the

hardy class. These are all tender Roses and must be removed to the house during the winter, though the hybrids may be left in the ground,

protected by a covering of straw, leaves, evergreen boughs or something of the kind. They do well in the garden during the summer, and, if planted in good soil, most of the varieties will bloom continually.

The Climbing Roses are all hardy and should be planted out-of-doors. They bloom profusely in June—some varieties showing an occasional blossom during the summer and fall—and are valuable for covering trellises, porches, rocks, etc. Among all the climbing varieties none are better known than the Ramblers. For veranda screens, for an ornamental fence, or even training over the side of a building, they are unsurpassed.

All of the Moss Roses are extremely hardy, and most of them very fragrant. These are excellent June bloomers, and some varieties flower irregularly during the fall. The distinctive feature of the class is the mossy covering of the green outer leaves of the bud, which gives them a delicate beauty that is found in no other Rose.

Our bushes are grown out-of-doors, in ordinary soil, and are as hardy and vigorous as it is possible to produce. If properly planted and cared for, they will give perfect satisfaction. Our list of Roses includes about all the desirable varieties. Every kind we offer has shown decided merit in repeated tests. The Hardy varieties we designate by an "H", the Tender kinds by a "T", the Climbers by a "C", and the Moss Roses by an "M."



Rose bush on its own roots as delivered to customers



Fig. 2. "A" represents the junction of the bud and original stock

## ROSES, continued

**Anny Muller** (Pink Baby Rambler). Brilliant pink; grows to a height of 18 inches; blooms from early spring until late fall outdoors, constantly indoors; flowers measure 2 inches in diameter; plants branch freely.

**Anne de Diesbach** (Glory of France). H. Brilliant carmine; long pointed buds, and large, compact flowers, full and double; delightfully sweet; a vigorous grower and free bloomer.

**Abel Carriere**. H. Dark crimson; flowers extra large, very double, full and sweet; of better form and finish than most of the dark sorts.

**Alfred Colomb**. H. Clear cherry-red, passing to bright crimson; extra-large, round flowers, very double and full; extremely fragrant.

**American Beauty**. H. A rich crimson, shaded and veined; large, double flowers, of exquisite form and deliciously fragrant; a quick and busy grower.

**Baron de Bonstettin**. H. Rich dark red, passing to deep maroon; flowers large, double and full.

**Baltimore Belle**. C. Pale blush, variegated with carmine, rose and white; flowers in clusters, double; one of the hardiest climbers.

**Baby Rambler**. Brilliant ruby-rose; foliage dark and glossy; blooms with the greatest freedom; hardy everywhere; steady and vigorous in growth.



Frau Karl Druschki (see page 59)

**Blanche Robert**. M. White; of fine form; strong grower and profuse bloomer; extra hardy.

**Caprice**. H. Satiny pink, with dashes of white and carmine; blooms freely at short intervals during the season.

**Caroline Marniesse**. H. Blush-white; blossoms small and full; borne in clusters; very hardy; exceedingly free bloomer.

**Caroline de Sansal**. H. Brilliant rose, verging into lilac and edged with bronze; large and full; fragrant, and a vigorous grower.

**Climbing Victor Verdier**. C. Brilliant carmine, beautifully edged with purple; large flowers; very fragrant and hardy.

**Clio**. H. Flesh-color; flowers large and free-producing; strong and vigorous growers; large and handsome foliage.

**Cloth of Gold** (Chromatella). T. Clear bright yellow; good form; large, very full and double; sweetly perfumed.

**Cornelia Cook**. T. Creamy white; large and fragrant; flowers in great profusion.

**Coquette des Blancs** (Ball of Snow). H. Pure white, sometimes tinted with pale rose, blooms in large clusters; of medium size; slightly fragrant; a continuous bloomer.

**Crested Moss**. M. Fine rose-color; beautifully crested buds; flowers large and full; highly scented.

**Crimson Rambler**. C. Beautiful crimson; holds its color well; foliage bright and glossy; plant of vigorous growth and entirely hardy; may also be grown in bush form.

**Crimson Rambler, Tree Form**. A perfectly hardy tree Rose; blooms profusely; a rapid grower; when kept trimmed, gives a beautiful effect.

**Devoniensis** (The Magnolia Rose). T. White, with blush center; large, very full and double; deliciously scented; gives an abundance of flowers through the season.

**Dorothy Perkins**. C. Color shell-pink; pointed buds; flowers borne in clusters; very double, with beautiful crinkled buds. The only sweet-scented Rambler Rose.

**Duc de Cazes**. H. Violet-crimson; flowers large and showy; full and double; sweet-scented.

**Empress of China**. C. Deep red, soft and dark; nearly double; waxy-like; fragrant and a continuous bloomer.

**Francois Levet**. H. Cherry-pink, delicately shaded with carmine and blush; flowers large-sized and well-formed. A strong grower and free bloomer.

## ROSES, continued

**Frau Karl Druschki, Bush Form.** H. Snow-white; flowers of immense size and produced with great freedom; very hardy and vigorous; unusually strong growers, branching freely; buds egg-shaped, long and pointed. Usually admitted to be the hardiest white Rose.

**Gem of Prairies.** C. Rich carmine blooms in clusters; fragrant; hardy, and a strong grower.

**General Jacqueminot.** H. Bright crimson, rich and velvety; buds are magnificent, flowers large and fragrant; desirable for open ground and forcing.

**General Washington.** H. Bright crimson; flowers large and perfectly double; blooms almost constantly.

**Gloire de Dijon.** T. Rich, creamy white, tinged with amber and blush; large flowers, produced freely; of climbing habit.

**Gruss an Teplitz.** T. Dark, rich crimson, very bright; flowers large, full and sweet; blooms constantly, throwing up fresh buds and flowers during the whole of the growing season; healthy, hardy and vigorous.

**Helene.** C. Soft violet-rose; base of petals yellowish white, anthers and pistils pure yellow; buds carmine; thoroughly distinct; of vigorous habit.

**Hermosa.** T. Clear rose; double and fragrant; blooms in clusters constantly; a hardy Rose.

**John Hopper.** H. Brilliant rose, shaded with pink and crimson; flowers large, regular and full; very sweet. A remarkably profuse bloomer.

**Jules Margottin.** H. Cherry-red; flowers large, double and fragrant, with pretty buds. A free grower.

**La France.** H. Satin-pink, with crimson; exceedingly fragrant and sweet; very full; a constant bloomer; requires winter protection and high culture.

**Lady Gay.** C. Delicate cherry-pink, shading to a soft white; vigorous grower and perfectly hardy; the effect of a plant in full bloom, combining white and pink flowers and deep green foliage, is particularly charming.

**Louis van Houtte.** H. Bright rose-carmine; large and very full; fragrant.

**Lady Helen Stewart.** H. Bright crimson-scarlet, large and full, of perfect form; flowers are produced on long, stiff stems; fragrance very fine.

**Liberty.** T. Deep carmine and scarlet; immense, well-formed, full, deep and double flowers; very fragrant.

**Mabel Morrison.** H. White; very full and double; cup-shaped; petals firm and erect.



Dorothy Perkins

**Madame Bravy.** T. Creamy white, with blush center; symmetrical form; delicately fragrant.

**Madam Gabriel Luizet.** H. Clear coral-rose, shaded with lavender and pearl; flowers extra large and elegantly formed; double, full and fragrant; hardy and a good bloomer.

**Madame Plantier.** H. Pure white; very large and double; a profusion of continuous blooms; hardy as an oak.

**Madame Welche.** T. Amber-yellow, deepening toward the center; flowers and buds remarkably sweet; a free grower and profuse bloomer early in the season.

## ROSES, continued

**Madam Alfred Carriere.** H. Rich, creamy white; flowers large and full; very double and sweet; strong grower and constant bloomer.

**Magna Charta.** H. Clear red, beautifully blushed; extra-large, full flowers; very double; hardy and profuse bloomer.

**Marshall P. Wilder.** H. Bright crimson, shaded with maroon; a strong, healthy grower; flowers large, double and of good substance; very fragrant.

**Marchioness of Lorne.** H. Rich rose, shaded in the center with vivid carmine; large, sweet and full; exceedingly handsome in bud; free-flowering.

**Marchioness of Londonderry.** Ivory-white; petals shell-shaped; flowers large and perfectly formed, borne on stout, erect stems; free-flowering and highly fragrant.

**Marechal Niel.** T. Deep golden yellow; both buds and flowers superb; extra large; very double and deliciously perfumed; blooms profusely; has the climbing habit, but requires careful treatment.

**Margaret Dickson.** H. White, with pale flesh form; petals large and prettily curled; buds large and globular; strong grower, with fine foliage; a free bloomer.

**Mrs. John Laing.** H. Bright pink, exquisitely shaded; very large flowers, full and double; fragrant; blooms in the late autumn.



La France Roses

**Paul Neyron.** H. Shining pink, clear and beautiful, double and full, finely scented; free bloomer, and one of the largest of Roses, often measuring 5 inches across.

**Perle des Jardins.** T. Clear yellow, entirely distinct; flowers extra large and full, with great depth and substance; richly perfumed. Plants very thrifty but not tall growers.

**Persian Yellow.** H. Deep, bright yellow; small and handsome Rose; very early bloomer; hardy and double.

**Perpetual White Moss.** M. Pure white; very mossy; blooms in large clusters; fragrant, and a strong grower.

**Prince Camille de Rohan.** H. Deep, rich crimson, shaded black; the nearest black Rose; large and fragrant; free in bloom and growth.

**Queen of Prairies.** C. Rosy red; a vigorous grower and abundant bloomer in June; hardy; of climbing habit.

**Queen of Bourbons.** T. Buff-rose; of fine form; a free bloomer; pleasing fragrance.

**Queen of Bedders.** T. Glowing crimson; wonderfully profuse in bloom; strong, compact grower; especially fine for beds.

**Red Moss.** M. Deep red; usually mossy; a good grower and fine bloomer.

**Safrano.** T. Bright apricot-yellow; beautiful in bud and handsome in flower; fragrant; a vigorous grower; fine for outdoor purposes.

**Souvenir de Malmaison.** T. Fawn-color; fine form; perfectly double and deliciously fragrant; quite hardy and a continuous bloomer.

**Sunset.** T. Rich old-gold, shaded with crimson; flowers and buds extra large, full and finely formed; hardy, and a constant bloomer.

**Victor Verdier.** H. Carmine, edged with purple; extra large and full; splendid autumn bloomer; requires winter protection.

## The Rambler Roses

**Yellow Rambler.** C. Clear decided yellow; flowers borne in immense clusters; very fragrant; absolutely hardy.

**White Rambler.** Pure white, sometimes tinged with blush; flowers small, well formed; produced in great profusion.

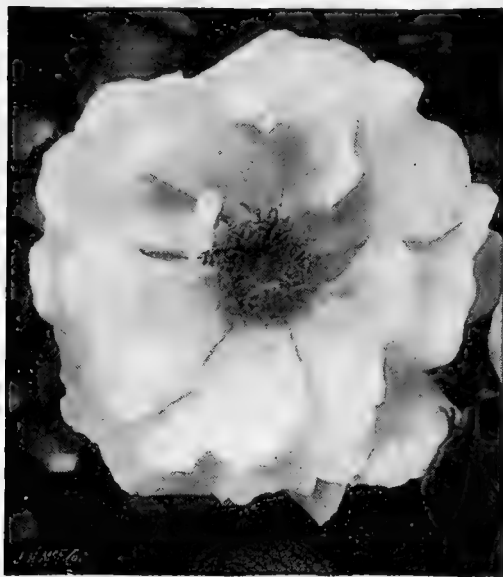
## Japanese Roses • Rosa Rugosa

When full grown, the bushes are from 3 to 5 feet high; sturdy; covered with handsome green foliage and clusters of beautiful flowers; delightfully fragrant. They bloom throughout the summer and are covered during the autumn and winter with red seed-pods. Splendid plants for growing in masses.

**Red.** Rich, rosy crimson.

**White.** Flowers of purest white, delicate and well formed.





Rosa rugosa

### Hybrid Sweetbrier Roses

This is a new and perfectly hardy race of Sweetbrier Roses, with foliage deliciously scented; flowers of the most beautiful tints, produced in great profusion and perfectly hardy, even in the coldest situations. Bushes four and five years old throw up shoots 10, 12 and 15 feet in height. Covered with the delicately shaded flowers, these give the most charming effect.

**Amy Robsart.** Lovely, deep rose; abundant bloomer; robust and free.

**Anne of Geierstein.** Dark crimson; large foliage; graceful branching habit.

**Brenda.** Maiden's-blush, or peach; dainty in color and shade, with bright golden anthers.

**Flora McIvor.** Pure white, blushed with rose; very large flowers.

**Lady Penzance.** Soft copper, with metallic luster; bright yellow at base of petals; very free-flowering.

**Lord Penzance.** Soft fawn or ecru, passing to lemon-yellow in center; sometimes toned with delicate pink.

**Meg Merrilies.** Gorgeous crimson; free-flowering; seeds abundantly; of robust habit.

**Rose Bradwardine.** Clear rose; perfect in shape; profuse bloomer; strong and robust.

### Hybrid Memorial Roses

*Rosa Wichuraiana*

The trailing or creeping growth of these Roses make them especially useful for covering terraces or trellises. They are hardy and grow well in the poorest soil. The foliage is thick and leathery, shining as if varnished, and keeps bright until late in the winter. The flowers are abundant and retain their perfection for a long time. These Roses are used to a considerable extent for cemetery planting, as they require very little attention.

**Universal Favorite.** Clear rose-color; very fragrant; flowers double and large—often over two inches in diameter.

**South Orange Perfection.** Soft blush-pink at the tips, changing to white; free-flowering; of medium size—from one and one-half to two inches.

**Manda's Triumph.** Pure white; flowers very double, produced in clusters on the side shoots, single clusters often containing as many as 10 or 12, covering the plant and standing well above the foliage.



Mrs. John Laing

### MULCHING.

It is very important in transplanting all kinds of fruit and ornamental nursery stock to see that a proper mulch is provided. The object of mulching is to conserve the moisture in the soil by preventing or hindering evaporation. When it is impracticable to keep a surface mulch by means of tillage with horse tools or a rake, it is advisable to use straw, well-rotted stable manure, or dead leaves. Soils which are covered with a mulch do not bake. If the best results are to be obtained in transplanting young nursery stock, one of the most important features is proper mulching.

Field of *Pæonia Festiva maxima*

## Peonies

The Peony is really the rival of the Rose in brilliancy of color and profusion of bloom, and it has been rightly termed "the flower for the millions." One of the Peony's strongest points is its hardiness. The plants require no other protection than that which they afford themselves. Vigorous habit, freedom from all diseases and insects, and profusion of bloom, are some of the features that have added to the popularity of the Peony, and caused a revival of interest in its cultivation during the past few years.

The newer varieties produce very large, regularly formed cupped blooms, resembling immense roses. No other flower is so well adapted for large and showy bouquets. The foliage of all the varieties is a rich and glossy dark green, making the plants ornamental even when out of bloom.

When the plants are once set, all the labor is over; each succeeding year will add to the size and beauty of the Peonies. Our selection of varieties has been made with extreme care, and we have discarded all but the best and most distinct kinds.

**Agida.** Semi-double; dark red; rich, glowing.

**Alba lutea.** White, with yellow center; very large and fine.

**Alba plena** (*Mutabilis*). Double white, tinged with pink; blooms early.

**Alexander Dumas.** Bright rose; large; fine.

**Belle of France.** Pink; large, of good form.

**Bicolor.** Pink rosette; foliage very attractive.

**Chrysanthemumflora.** White, with yellow center; the nearest yellow variety.

**Decaisne.** Purple-violet, beautiful shade.

**Elegans.** Pink; large and full; extra choice.

**Emperor William.** Dark purplish red; very large; vigorous grower.

**Faust.** Bluish white; large; full; fragrant.

**Festiva.** White, with marks of carmine in the center; globular, beautiful and sweet.

**Festiva maxima.** Snow-white; flowers very large, borne in clusters; fragrance very fine.

**Fringe Leaf.** Double; bright scarlet; foliage finely cut; the earliest to bloom.

**Fulgida.** Crimson; profuse-flowering; good foliage; very fine.

**Humea alba.** Dark pink, with sharp-toothed salmon in center; distinct.

**Incarната.** Pure white; good-sized; early; attractive foliage.

**Lilacina.** Lilac-rose; holds its color well; a fine late variety.

**Lilacina superba.** Light lilac; medium petals; flowers full and fine.

**Louis Van Houttei.** Delicate crimson; very compact; a showy variety.

**Madam Furtado.** Deep rose, tinted with lilac; very early.

**Purite.** Large; white; good form and habit.

**Rosacea splendida.** Very light pink, with narrow yellowish white petals in center.

**Rosea.** Double crimson, changing to rose.

**Rubra.** Semi-double; dark purple-crimson;

**Triomphe du Nord.** Violet-rose, shaded with lilac; fine color and a beautiful kind.



## Hardy Herbaceous Perennials

In this section we include such plants as may be allowed to remain in the ground from year to year; the foliage, of course, is killed by autumn frosts, but the roots remain in the ground, entirely unharmed, ready to send forth vigorous new growth when the warm days of spring come.

From both the practical and the artistic standpoint, the hardy perennials have many claims. There is such a variety of form, of color, and time of blooming, that even the most critical gardener can readily find sorts that will fit into his place. The white flowers of *Helleborus niger*, or Christmas Rose, will be found under the snow in January; and from that time on through the whole year the perennial garden may have an abundance of bloom.

To enumerate the hardy plants that are worthy of cultivating would be almost a repetition of the following pages, so we suggest only a few among the many that are daily proving satisfactory in hundreds of gardens. A collection of iris can be easily made, and of the multitude of varieties we have chosen the sorts we believe best adapted to cultivation under all conditions. These flowers are as daintily tinted as orchids, and by many gardeners are considered the most beautiful of the flowering plants.

The peony, too, must be included in the list of beautiful perennials, and no garden can be considered complete that does not contain at least a small collection. The phloxes are always valuable for planting in color masses or grouping in front of shrubbery, while the hollyhocks, eulalias or the rudbeckia, Golden Glow, make a useful and ornamental screen.

Almost no care is required in a garden of perennials. A fairly good soil to start with, a little fertilizing in the spring or fall, just enough cultivating during the summer to act as a mulch and to keep down weeds, and cutting out the old dead tops, is about all that is necessary. A mulch of strawy manure or leaves in the late fall is an advantage, but not absolutely necessary.

The planting requires some judgment, if the most effective borders or beds are desired. Low-growing plants should be selected for setting near the front, grading up to the taller sorts—the hollyhocks, anemones, or sunflowers—at the back or the center. The colors, too, should be selected, so that the effect will be harmonious. Too often this is overlooked, and the garden colors are glaring and tiresome.

The hardy perennials are useful for cut-flowers—with a proper selection, blooms for the house may be had every day from April to December, therefore care should be exercised to select varieties that will give a succession of bloom. As a further assistance in selecting hardy perennials, we have indicated the height of each, and the month in which the plants usually bloom.



Gaillardia grandiflora

## HARDY HERBACEOUS PERENNIALS, continued

When requested we will make selections for our customers, for with our experience and resources we can furnish collections that will give perfect satisfaction wherever planted. We solicit correspondence from persons laying out extensive places, and suggestions and estimates will be gladly furnished.

**Apache Plume · Geum**

A dwarf plant, with conspicuous bright red flowers, followed by silvery, pink seed-pods. Blooms in May and June. 9 inches.

**Beard Tongue · Pentstemon**

Plants of a very ornamental nature, producing long spikes of showy flowers in great abundance. Colors run from pure white through blue, purple and lilac to bright scarlet. June to September. 1 to 4 feet.

**Bellflower · Campanula**

**Bearded Harebell** (*C. barbata*). An Alpine sort, with a beard at the mouth of the pretty sky-blue flowers; nearly  $1\frac{1}{4}$  inches long.

**Bleeding Heart**

*Dicentra*, or *Dielytra*

**Alleghany** (*D. eximia*). Very handsome; leaves finely divided; flowers deep rose, heart-shaped; blossoms at intervals from spring until autumn. 12 to 15 inches.

**California** (*D. formosa*). Color of flowers pale rose; leaves gracefully clustered.

**Dicentra spectabilis**. Flowers large and heart-shaped; deep red; well adapted for winter culture. Blooms in May and June. 1 to 2 feet.

**Blanket Flower · Gaillardia**

A constant bloomer from June until frost. Flowers yellow or purple; 2 inches across; single or naked stems; very showy, ornamental and hardy.

**Candytuft · Iberis**

**Corræfolia**. Compact heads of pure white flowers in early spring; foliage evergreen; persistent bloomer.

**Gibraltarica**. Flowers large, white, tinted with red; very fine.

**Evergreen** (*I. sempervirens*). Of spreading habit; flowers pure white, completely covering the plant; a fine border plant and valuable for forcing.

**Cardinal Flower · Lobelia**

A fine, scarlet, hardy plant, of easy cultivation; well adapted to clay soils; flowers fiery cardinal; blooms in August and September. 3 to 4 feet.

**Eulalia Japonica Zebrina**

An ornamental grass of great beauty; foliage marked crosswise with alternate bands of white and green. Large blooms develop in the autumn; hardy. A small root when delivered; from 4 to 5 feet high when fully grown.

## Chalk Plant

*Gypsophila*

*Gypsophilas* are valuable for cutting, being very dainty and graceful.

**Acutifolia.** A reliable plant, worthy of general culture; very choice for cutting; small white flowers in panicles, blooming in July.

**Paniculata.** Has a symmetrical bush, covered with white flowers. Blooms in July. 2 to 3 feet.

**Repens.** A handsome trailing form, with light green foliage and pink and white flowers. July to September. 6 inches.



*Aquilegia*

## Cone Flower

*Rudbeckia*

**Newmani.** Produces golden yellow flowers, with black centers; blooms in great profusion during the autumn. 3 feet high.

**Purpurea.** Has large and handsome crimson-purple flowers, with dark central disk. Blooms in September.

## Day Lily

*Hemerocallis*

**Yellow** (*H. flava*). Bright golden; very fragrant; fine for cutting and forcing. A thoroughly hardy, true perennial. Will last for twenty years without renewing.

## Chamomile · Anthemis

**Golden Marguerite** (*A. tinctoria*). Flowers golden yellow, in bloom from June to November; splendid for cut-flowers. 2 to 3 feet.

## False Dragon Head

*Physostegia Virginica*

A showy plant, with spikes of delicate, rosy pink flowers an inch long, and very profuse. Grows 3 to 4 feet.

## Christmas Rose

*Helleborus*

**Atrorubens.** Flowers of purplish red, produced in clusters, blooming in April.

**Niger.** Beautiful pure white flowers, with slight rosy tinge when grown outdoors. A favorite among market-growers. Blooms freely in December and January.

## Chinese Bellflower

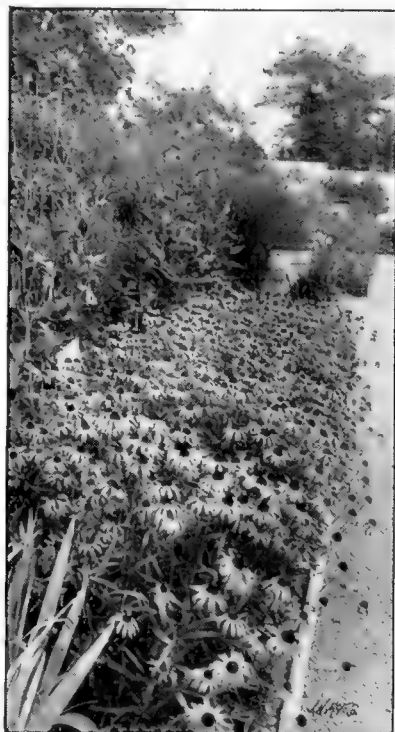
*Platycodon*

**Grandiflorum.** Plants of erect growth, blooming in constant succession; large blue flowers. June to July. 1 to 2 feet.

## Columbine

*Aquilegia*

**Alpine** (*A. Alpina*). An elegant, erect bush; handsome foliage; soft showy blue flowers. 8 to 9 inches.



*Rudbeckia Newmani*

## False Indigo

*Baptisia*

**Blue** (*B. Australis*). A strong-growing plant, very desirable; deep blue, lupin-like flowers. Blooms in June. 2 to 5 feet.

**Baptisia caerulea.** Bluish green leaves and pea-shaped indigo-blue flowers. Blooms in June and July. 2 ft.

## Feverfew

*Pyrethrum*

Among the most useful of hardy flowers; adapted to any soil and situation. True perennial. Flowers of good size and form, double, like an aster; beautiful for bouquets and cut-flowers.

## Flax · Linum

**Perenne.** Free-blooming plants that thrive in light soil; elegant habit and foliage; handsome light blue flowers. Blooms in July.

### Forget-Me-Not • Myosotis

**Palustris.** Delicate blue flowers, with yellow centers, appearing all summer; hardy, broad-spreading; thrives in moist and shady places.

### Foxglove • Digitalis

A stately and fine old garden favorite. Flowers vary from white to purple, usually more or less spotted; borne in long, spire-like racemes. Blooms from June to August. 2 to 3 feet.

### Greek Valerian • Polemonium

**Cæruleum.** An old-fashioned plant of easy culture; leaves of rich green; flowers blue, very profuse, produced in late spring and early summer.

**Reptans.** A low-spreading variety, with blue flowers; blooms in May. 1 foot.

### Golden Glow

A hardy flowering plant that is an excellent grower. In appearance much like fine chrysanthemums, blooming from July to September, with double flowers of deep golden yellow. We furnish only the roots.



Foxglove (*Digitalis*)

### Globe Flower • Trollius

**Caucasicus fl. pl.** Large, double flowers of deep orange. Very pretty; blooms in June; about 18 inches high.

### Hardy Asters, or Michaelmas Daisies

**Alpine** (*A. Alpinus*). Tall and showy; handsome and useful; blooming in the fall. Flowers purple. 6 inches.

**Italian Starwort** (*A. Amellus*). Rich purplish blue flowers, with orange center. Blooms in September. 3 feet.

**Coccineus Nevadensis.** A variety with red flowers, yellow in the center.

**Heath-Like** (*A. ericoides*). White, with yellow center; flowers in October; small, but pleasing.

**Floribundus.** A variety with light blue flowers. Attains a height of about 2 feet.

**Himalayensis.** Small white flowers; blooms freely in September. 2 feet.

**Horizontalis.** Numerous branching stems, smothered with red and white flowers. 2 feet.

**Lancifolium Californicum.** Azure-blue; blooming season September. 3 to 4 feet.

**Longifolius formosus.** Dwarf-growing with cloud of very large, bright rose-colored blossoms. Blooms in October. 2 to 3 feet.

**New England** (*A. Nova-Angliæ*). The best of the American kinds; produces freely big violet-purple blossoms. Blooms in August and September. 4 feet.

**Novæ-cæruleus.** Blossoms bluish purple; produces freely; September. 4 to 5 feet.

**Novi-Belgii.** Delicate blue flowers. Blooms in September. 3 to 5 feet.

### Hardy Phlox

**Amoena.** Flowers very showy, profuse, rose-pink, opening in late spring. Of dwarf habit, perfectly hardy, and easily cultivated.

**Amazon.** Large flower; pure white.

**Coquelicot.** The best scarlet Phlox, unmatched in color.

**Carolina.** Pink; showy flowers.

**Flambeau.** Bright orange-red, darker center.

**Henri Murger.** Pure white, large carmine center. Flowers large.

**Lothair.** Rich salmon, with crimson eye.

**Michael Cervantes.** White; large rosy eye.

**Mad. P. Langier.** Bright geranium-red, vermilion eye.

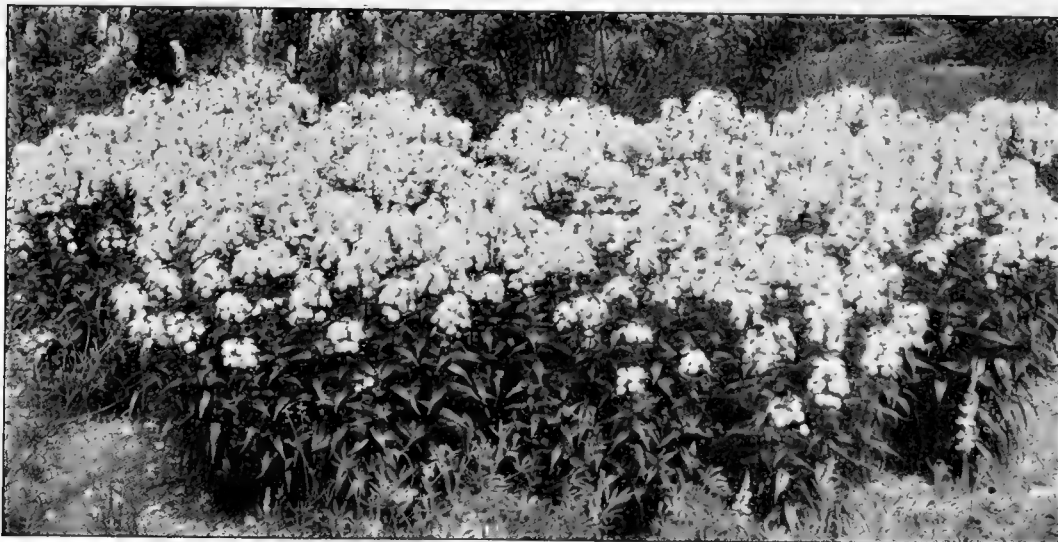
**Pantheon.** Flowers large, pink salmon-rose; distinct.

**Richard Wallace.** White, with violet eye.

**Sesostris.** Large flower; bright carmine.

**William Robinson.** Pale salmon, with rose center. Flowers very large.





Border of Hardy Phlox

### Hollyhocks

No plant had a larger part in the beauty of the old-fashioned garden, and revival of interest in hardy plants has caused them to come into renewed favor. We offer a collection of the fine double sorts in a wide range of color from white to almost black.

### IRIS • Fleur-de-Lis

#### German • Iris Germanica

**Apollon.** Golden yellow, striped plum-color.

**Atropurpurea.** Large purple flowers.

**Augustina.** Deep yellow, marked with maroon, giving a coppery hue.

**Aurea.** Clear golden yellow; large full flowers.

**Bougere.** Lilac and velvety purple; distinct and pleasing.

**Celeste.** Delicate light lavender-blue.

**Common Purple.** Clear purple; one of the best varieties.

#### Japan • Iris Laevigata

Flowers differ from the German Iris in that they are broad and flat. They are large and showy, white, and of various shades of blue, violet, lavender and purple. Among the most beautiful of flowering plants. They appear later than the others and succeed best in a moist soil.

### Japanese Spirea

*Astilbe Japonica*

**False Goat's Beard** (*Astilbe*). A hardy border plant; leaves bright green; flowers white, borne in large, branching panicles. Blooms in May outdoors, but chiefly grown for forcing in winter.

### Lamp Flower • Lychnis

**Chalcedonica.** A very reliable and satisfactory flower; brilliant and superior as garden plants; terminal heads of scarlet; large truss blooms in July and August. 3 feet.

**Alba.** An exquisite white variety; flowers borne in sprays from early spring until frost.

**Diurna fl. pl.** Deep red flowers in clusters; blooms from early spring until late summer.

### Larkspur • Delphinium

Very beautiful hardy plants, with rich green leaves and magnificent blue flowers. They are uniformly popular and of easy culture.

### Linosityris • Linosityris

Showy, pale yellow flowers, borne in terminal panicles. Blooms in autumn. 3 feet.

### Liver-Leaf • Hepatica

**Round-lobed** (*H. triloba*). Flowers white, red and purple, making a most effective display among the earliest of the spring flowers. Should be grown in clumps. Will stand for 10 to 15 years.

### Loosestrife • Lysimachia

**Clethroides.** Showy and vigorous shrub; flowers white, borne on long, dense spikes, blooming in July. 2 to 3 feet high.

**Moneywort** (*L. nummularia*). Stems creeping, covering large spaces of ground; small, yellow bell-shaped flowers produced in June. Adapted to moist and shady places and fine for hanging baskets and rockwork.

## Lythrum

**Roseum superbum.** A vigorous shrub, with spikes of rose-colored flowers; blooms in August and September. 4 feet.

## Madwort • Alyssum

**Argenteum.** A dwarf plant, with grayish foliage and yellow flowers. Blooms in the late spring. 1 foot.

## Meadow Sweet

*Spiraea Alba*

**Aruncus.** A highly ornamental plant of easy culture; large panicles of creamy white flowers. June. 4 feet.

**Astilboides.** Another variety producing white flowers in panicles. June. 2 ft.

**Floribunda.** Compact and graceful white flowers. June. 2 to 3 feet.

**Filipendula.** Long, showy heads of white flowers, tinged with rose; fine foliage. June. 1 to 2 feet.

**Flora plena.** Double white flowers; fern-like foliage. June. 2 to 3 feet.

**Humboldtii.** Greenish flowers of a shade contrasting nicely with the foliage. June. 3 feet.

**Lobata.** Deep rose; on large heads; of robust habit. June. 1 foot.

## Marsh Marigold

*Caltha*

**Flore pleno.** Attractive bright golden yellow flowers; double; blooms in early spring.

## Meadow Rue

*Thalictrum*

**Aquilegifolium.** A graceful border plant, with heads of the feathery cream-colored flowers; foliage finely cut.

**Glaucum.** Yellow flowers, otherwise similar to the above.

## Monkshood, or Wolfsbane

*Aconitum*

**Autumnale.** A tall, free-flowering plant, with spikes of showy blue or lilac flowers, opening in autumn; dark green leaves. 4 feet.

## Myrtle • Vinca

**Cærulea minor.** A blue-flowering, trailing evergreen; strong grower; thrives in every shady place.

**Elegantissima alba.** A variety with white flowers and glossy green oval foliage.

## Ox-Eye • Bupththalmum

**Cordifolium.** Very free and ornamental, with large foliage and yellow flowers. June and July. 4 ft.

## Oswego Tea

*Monarda*

**Didyma.** Free-growing; showy foliage; fragrant, large, bright scarlet flowers.

**Alba.** The white-flowering variety.

## Oriental Poppy

*Papaver Orientale*

A gorgeous plant, very showy and useful, producing large flowers of bright red or scarlet. The leaves are deeply cut and parted; rich green. Few, if any, flowers are more gorgeous. They died down after transplanting, but make new growth from the roots, and are evergreen in winter.

## Pheasant's Eye

*Adonis*

**Vernalis.** Leaves finely divided, densely clothing the stems; bright yellow blossoms, produced in early spring. 8 to 12 inches.

## Plantain Lily

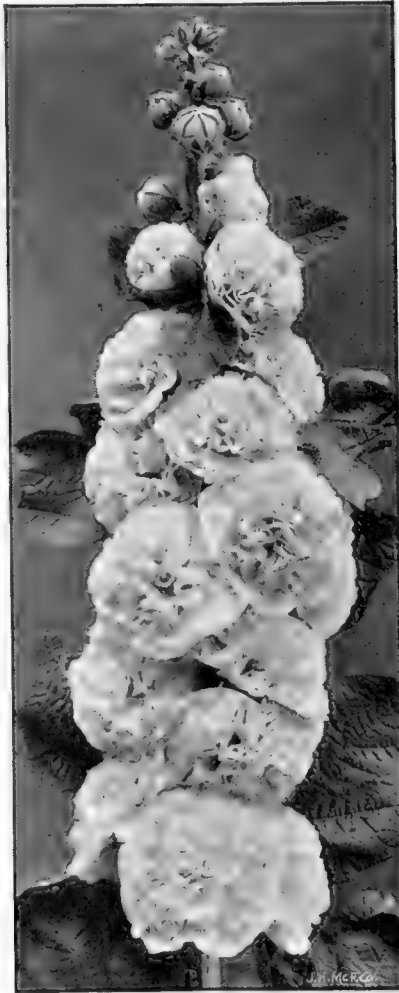
*Funkia*

**Cærulea.** One of the most handsome foliage plants, luxuriant and beautiful. It will thrive in almost any position. Flowers light blue; foliage dark green. June and July. 1 foot.

**Grandiflora.** Pure white, large trumpet flowers, exceedingly fragrant, with handsome, broad, light green foliage. July to September. 18 inches.

**Grandiflora alba.** Pure white, fragrant flowers; blooms nearly all summer.

**Lancifolia.** Deep green, lanceolate foliage; flowers lilac, borne on spikes. July and August.



Double Hollyhocks



German Iris

## PLANTAIN LILY, continued

**Lancifolia fol. aureo variegata.** Leaves variegated with yellow; flowers delicate white.

**Japonica.** Lavender flowers, free-blooming generally in August and September. 2 feet.

**Japonica alba marginata.** Foliage edged with a shade of white; very pretty and distinct

**Sieboldiana.** Glauous foliage; handsome spikes of pale lilac flowers.

**Undulata media picta.** Foliage light green, distinctly variegated with white; fine for edging; lavender flowers.

Plume Poppy · *Bocconia*

**Cordata.** Leaves large and green; flowers pinkish, borne in plummy masses. August. 5 to 8 feet.

Primrose · *Primula*

**Acaulis.** The common European Primrose. Very beautiful when in flower.

**Auricula.** Sweet-scented, yellow, Swiss species; large, handsome, silvery edged foliage.

**Cortusoides.** A pretty little plant from 6 to 9 inches high, with lilac flowers.

**Elatior.** The Oxlip Primrose; very fine where the summer heat and severe winters do not give too great extremes in temperature.

**Veris.** Flowers bright yellow, in terminal umbels, blooming in spring and early summer. The plant is 6 to 8 inches high and perfectly hardy

Reed · *Arundo*

**Giant (*A. Donax*).** A hardy and vigorous perennial; leaves long and broad; glaucous green; blooms reddish brown, changing to gray; very showy. 10 to 15 feet.

Rock Cress · *Arabis*

**Alpine (*A. alpina*).** Of dwarf habit, forming a dense carpet of green, which in early spring is covered with pure white flowers. Especially adapted for rocks, gardens and border purposes. 6 to 8 inches.

**Variegated (*A. variegata*).** Finely variegated foliage; very ornamental in rockwork.

Rose Mallow · *Hibiscus*

**Swamp (*H. Moscheutos*).** Flowers vary from light purplish red to nearly white, with darker eyes. A magnificent, hardy decorative plant. Blooms from July to September. 5 feet.

**Crimson Eye (*H. albus*).** Pure white flower, with crimson-purple eye; large and showy; blooms in August. 4 to 5 feet.

Sage · *Salvia*

**Meadow (*S. pratensis*).** Produces flowers in spikes for a long period in midsummer. 2 or 3 ft.

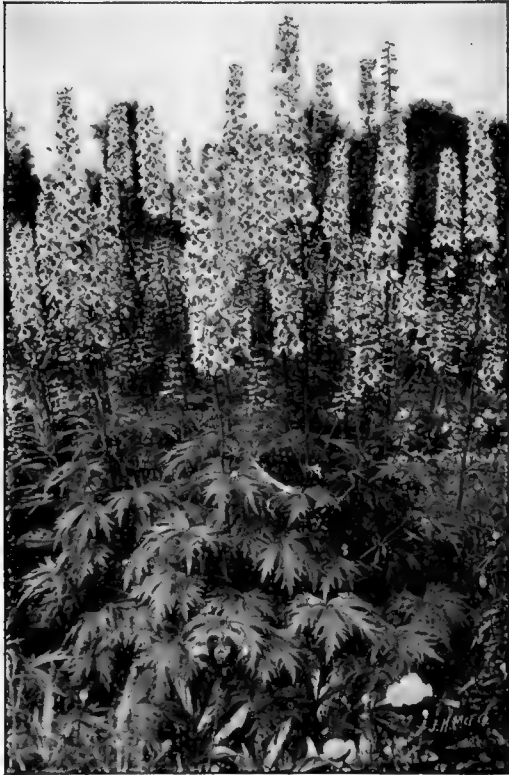
**Garden (*S. officinalis*).** This is a standard variety, widely grown and well known.

Sea-Holly · *Eryngium*

Highly ornamental foliage; spiny and lacinated candelabra-form branches; amethyst-blue flowers. July and August. 3 feet.



Japanese Iris



Larkspur (Delphinium)

**Shasta Daisy · Chrysanthemum**

Free-flowering plant, with large and showy blooms, resembling those of the daisy; white, with golden center; petals in two or more rows; blooms abundantly.

**Snake Root · Eupatorium**

**White Thoroughwort** (*E. ageratoides*). Easily grown, tall plants, which serve a valuable purpose for border planting. They bear large heads of handsome pure white, fragrant flowers. June to August. 5 feet.

**Sneezewort · Helenium**

**Autumnale Superbum**. A strong, upright stem, with many-branched panicles of clear and shiny flowers, produced in wonderful profusion; unique and striking. Blooms in September. 5 feet.

**Hoopesii**. Large, bright orange-like flowers, very showy. Blooms in May and June. 3 to 5 feet.

**Soapwort · Saponaria**

**Ocymoides**. A useful trailing plant, completely covered in summer with rosy pink flowers. Blooms from May to August.

**Spanish Bayonet · Yucca**

**Adam's Needle** (*Y. filamentosa*). Stately, thread-leaved; blossoms large and showy; creamy white. Its bold and imposing aspect lends tone to any garden.

**Speedwell · Veronica**

**Amethystina**. A splendid hardy plant; amethyst-blue; flowers in June.

**Gentianoides**. Pale blue, with azure; foliage glossy and broad. May and June.

**Longifolia subsessilis**. Deep, rich blue; perfectly hardy; the best of the family. August to October.

**Rupestris**. Of creeping habit; flowers showy blue; borne in dense racemes.

**Sunflower · Helianthus**

**Double** (*H. multiflorus*). Indispensable for large borders, woodland, walks, etc.; free-flowering perennial, and will succeed in almost any soil; deep yellow, large, double dahlia-like flowers on wiry stems. Plants grow from 5 to 6 feet in height, and delight in rich, sandy soil and plenty of sunlight.

**Tansy · Tanacetum**

**Balsamita**. Flower small, pale yellow, produced in autumn; foliage prettily scented. 2 to 3 feet.

**Vulgare**. The familiar crisp-leaved Tansy. All parts of the plant emit a strongly aromatic odor when slightly bruised.



Spiraea Japonica

### Thermopsis Caroliniana

Showy, tall-growing plant; foliage resembling clover; flowers pea-shaped, bright yellow. Blooms in June and July.

### Tickseed · Coreopsis

**Yellow** (*C. auriculata*). Fine for cut-flowers; flowers solitary on long stalks; yellow; blooms in June. 2 to 3 feet.

### Torch Lily · Tritoma Kniphofia

**Glaucenscens**. Large spikes of vermilion-scarlet flowers, shading to orange; exceedingly free blooming; invaluable late in the autumn. Commonly known.

### Valerian · Valeriana

**Officinalis**. Has large trusses of light lavender flowers; fragrant and showy foliage; blooms in June. About 4 feet.

### Windflower · Anemone

**Japonica**. Fine for the herbaceous border; grows up fresh from the roots each spring. The peculiar leaves are very attractive until fall, when spikes of beautiful blossoms appear and remain for weeks. Single blooms are about



Shasta Daisies



Primula Veris

### WINDFLOWER, continued

2 inches in diameter. Single red and single white.

**Japanese Red** (*A. Japonica rubra*). Leaves dark green; stems clustered, bearing a great wealth of large and beautiful flowers from late summer until frost. Bright purple-rose, with golden centers. 3 to 5 feet.

**Japanese White** (*A. Japonica alba*). Large and showy white flowers, with golden center.

### Wood Lily · Trillium

**Erectum**. Very effective and showy; flowers early; color brownish purple; not pleasantly flavored.

**Grandiflorum**. Has large white flowers and can be domesticated for garden culture.

### Wormwood · Artemisia

**Pontica**. An interesting plant, with handsome silvery foliage for which it is more valued than for its bloom.

**Vulgaris**. The common Wormwood, or Mugwort. Chiefly grown for its foliage, which has a pungent odor and bitter taste, an infusion containing certain tonic properties that are considered of medicinal value.

### Yarrow, or Milfoil · Achillea

**The Pearl**. Small, pure white, double flowers, produced in profusion during July. Invaluable for borders. 1 foot.

## Summer-Flowering Bulbs and Roots

The bulbs here listed are tender, and must be taken up in the fall, and kept in a dry, cool place; but not allowed to freeze. They are all of the easiest culture and should have a place in every garden. Although we do not list a great number of varieties we can supply bulbs of any meritorious variety. We shall be pleased to give information as to the varieties best suited to our customers' needs, and invite correspondence.

### FALL BULBS

Some of the daintiest and most beautiful flowers are found in the spring-blooming class. All the early spring flowers—crocus, hyacinths, tulips, etc.,—are from bulbs that must be planted in the fall.

The classes and varieties are so numerous that it is impossible for us to name them all in the limits of this Catalogue. We list below a few of the standard kinds, and shall be glad to supply, on request, information in regard to other bulbs for fall planting.



Dahlia

### Gladioli

These stately and handsome flowers can be grown by any one and under almost any conditions. The range of color is great—from the daintiest pink to the deepest crimson, and spotted and flecked in the most gorgeous fashion. For cutting, the Gladiolus is unequaled, lasting longer than almost any other flower, and often developing the splendid spikes in water to greater size than anywhere else.

The plants are of robust and erect habit, with deep green, sword-shaped leaves. The flower-scapes rise to a height of 2 to 3 feet.

A succession of bloom may be had from July to September, by planting at intervals from April to June, reserving the strong bulbs for the late plantings. Gladioli require very little attention and will grow in any ordinary garden soil. They should be lifted in the fall and placed in a dry cellar.

### Dahlias

Dahlias have well been called the "Queens of Autumn," for they are really the grandest autumn flower we have, and their popularity increases yearly. During September and October they attain their greatest glory, and, though almost all other flowers have surrendered to the frost, the Dahlias still continue to show their glorious colors.

Dahlias require a sunny situation. The character of the soil—clay, sand or loam—is immaterial, if it is well fertilized, for the plants are gross feeders. The roots should be dug in the fall and stored in a dry place, free from frost, during the winter.

There are four general types—Single or Cosmos-flowered; Pompon or Bouquet; Show or Large-flowered, and Cactus.

The Single varieties are very desirable, producing flowers of the most attractive hues and blooming early in the season.

The Pompon Dahlias are highly prized on account of the small flowers, especially adapted for bouquets and decorative purposes. They have brilliant colorings.



Gladioli



**DAHLIAS, continued**

The **Large-flowering** kinds are very showy, comprising a large list of varieties which embrace an extensive range of colors.

The **Cactus-flowering** is fast becoming the most popular class of Dahlia. The peculiar twist of the petals makes them especially attractive, and gives them a most graceful appearance. Like the other varieties, the colors range from white to dark maroon.

**Cannas**

Tall-growing tropical plants of great beauty. They are most striking in appearance when massed in solid colors, or used as a center for

beds. They should be planted in the spring, and the roots taken up in the fall and stored in a cool place, free from frost. We have a complete assortment of the most desirable varieties, including all the late introductions.

**Tuberoses**

A plant of the easiest culture, suitable alike for the summer garden, or the house all through the year. The flowers are pure white, double, waxlike in texture, and of the most delightful fragrance. The bulbs should be started in pots early in the spring, using a rich soil, and transplanted to the garden when the weather is suitable.

**Bulbs That Should Be Planted in the Fall**

Much of the beauty in the early spring gardens comes through bulbs that are planted in the fall, and some of the daintiest and most beautiful flowers are found in this class. As a general thing, the spring-blooming bulbs are delightfully fragrant. The classes and varieties are so numerous that it is impossible for us to name them all in the limits of this Catalogue. We list below a few of the standard kinds and shall be glad to supply, on request, information in regard to other bulbs for fall planting.

**Lilies**

Entirely hardy, require little or no care, and make a grand display. Lilies should not be disturbed for several years, as established plants bloom more freely than those that are taken up annually. Lily bulbs should be planted at least six inches below the surface. We can furnish all the leading varieties.

**Crocuses**

Delicate and tasteful in form and varied and gay in color. Until the flowering of the hyacinth, and through the most changeable and unpleasant of the spring weather, the garden depends almost wholly upon the Crocus for its brightness. They are among the earliest of the spring flowers and are exceedingly effective when planted at random on the lawn.

**Hyacinths**

The Hyacinth stands foremost among all the bulbs used for blooming indoors in winter and spring flowers in the garden. Their splendid and striking beauty is too well known for them to require special description, and their ease of culture is generally understood.

**Tulips**

Another favorite among the spring-blooming bulbs, especially noted for the showiness of the blooms, which are produced in a striking assortment of colors. May also be made to bloom indoors during the winter.



Single Tulip

# Directions for Transplanting and After-Culture

## RECEIVING NURSERY STOCK

If unable to plant at once, open the bundle and cover the roots thoroughly with fine, damp soil, or place in the cellar and keep moist until ready for planting. **Under no circumstances allow the stock to remain exposed to sun or air.**

## PREPARATIONS FOR PLANTING

**Fruit Trees** (Except Peaches). Cut off the ends of the bruised or broken roots with a sharp knife, as a clean cut will heal much sooner than a bruise. If it be a standard tree, trim up to four or five branches suitable to form the future top, and cut each of the side branches back to a bud, 4 or 5 inches from the body of the tree, leaving the leader or central shoot from 8 to 12 inches long.

**Peaches.** Peach trees should be headed back within 2 to 3 feet of the ground, and side limbs should be trimmed off so as to leave only a short stub with a single eye to form a new head.

**Small Fruits**, such as grape-vines, currants, gooseberries, raspberries, blackberries, etc., are cut back by us before shipment, and, as a rule, a slight pruning of the roots will suffice.

**Roses and California Privet Hedging**, to insure the best results, should be cut back to within 6 or 8 inches of the ground. Stock planted in the fall should not be pruned until early the following spring. **Don't forget that mulching is a great benefit in both fall and spring planting.**

## SOILS

**Apples.** Apples will do well on any good, well-drained soil, but the best results are obtained on a deep, gravelly, or clay loam.

**Pears.** The Pear does best on a strong, clay loam of moderate depth, with a dry subsoil, but will adapt itself to as great a variety of soils as any fruit tree.

**Plums.** This fruit grows vigorously in almost every part of this country, but succeeds best on heavy loam, or in soils where there is a mixture of clay.

**Cherries.** A dry soil for the Cherry is best and, although it will grow and thrive in a great variety of soils, yet a good sandy or gravelly loam is the favorite one.

**Peaches.** The very best soil for securing big crops of high quality Peaches is a rich, deep, sandy loam, and the poorest is a heavy clay, although fair crops are raised in some localities.

**Quinces.** To reach perfection, Quinces should be planted in deep, good soil and kept in constant cultivation.

**Small Fruits**, such as grapes, currants, gooseberries, raspberries, blackberries, etc., do well on any soil except a wet one.

**Asparagus.** To make an Asparagus bed, prepare a place of fine, loamy soil, to which has been added a liberal dressing of rich manure. For a garden, set in rows 18 to 20 inches apart, with the plants 10 to 12 inches apart in the rows. Make a small mound, over which the roots should be evenly spread, then cover the plants with 3 inches of soil. If planted in the fall, the whole bed should be covered before winter sets in with 2 or 3 inches of coarse stable manure, which may be lightly forked in between the rows as soon as the ground softens in the spring.

**Rhubarb.** Deep, rich soil is the best for Rhubarb, but it is a strong, vigorous-growing plant and will thrive almost anywhere. Set the roots so that the crowns are about an inch below the surface. It is a gross feeder and, the more manure, the larger and finer the yield.

**Roses.** Any fertile soil will do for Roses, but they are much improved in fragrance and beauty by liberal manuring and good cultivation.

**Ornamental Trees, Shrubs, Vines, etc.** There are so many different kinds that it is impossible for us to specify here the particular soil adapted to each variety, but it should be remembered that a good rich soil will always produce the best results and that a rich top dressing is always helpful.

## PLANTING

In properly prepared ground, the holes need not be dug much larger than necessary to receive the roots in their original position, but it is always best to dig some distance below the roots and **Refill with Surface Soil**. For trees planted in sod ground, the hole should be dug three times the size necessary in well-plowed land. Two persons are required to plant trees properly; while

## PLANTING, continued

one holds the tree upright, let the other fill rich, mellow earth carefully in among the roots, stamping each shovelful firmly in so that all the roots will come in direct contact with the soil and no air reach them. When the roots are all covered, a pail of water should be thrown in to settle the earth around them. When the hole is entirely filled, the soil should be as firm as the surrounding surface.

Remove all label wires from the trees, that they may not cut the branches; keep a record or map of the names and varieties planted. If the trees are tall or much exposed to winds, tie to a stake in such a manner as to prevent chafing.

**Important.**—As soon as planted, a mulching of 3 or 4 inches of coarse manure, straw, or dead leaves, should be placed about the tree to keep the ground moist. In orchards, instead of a mulch, cowpeas or the Canadian field-pea may be used for this purpose with excellent results. In plowed land, they can be sown broadcast and either cut and cured for fodder, or in midsummer cut with a disc-harrow, and then plowed under the following spring. If trees are planted in sod land, these peas can be worked around the tree and in midsummer trampled down or cut and allowed to remain on the ground.

When stock is planted in the fall, earth should be banked up about it so that the water will run off instead of settling about the roots where it might freeze and kill them. Early the following spring this dirt should be leveled down and the tree mulched or peas sown, as stated above.

## AFTER-CULTURE

The general directions are to keep the soil loose and moist by frequent cultivation. We do not approve of raising grain or field corn, or seeding with permanent grasses, in an orchard, but sugar corn and vegetables may be grown if the ground is well fertilized and plenty of potash used.

## FERTILIZERS

Wood-ashes are unquestionably the best fertilizer for all kinds of fruit trees but nursery stock of all kinds will be benefited by the liberal use of any well-rotted manure.

## PRUNING

This, as a rule, should be done in March, or earlier, before the sap begins to flow. It is well to remember that pruning fruit trees is largely a matter of common sense, and that the object is to form a well-shaped tree, to allow the sun and air to get at the fruit, and to check a too rapid growth of wood, thereby throwing the sap into the fruit buds. If the tree is growing tall and rampant, cut it back; if all the limbs grow inward, thin them out in such a manner that the remaining branches will make an outward growth, that the sun and air may be let in.

**Grapes.** Permit the vines to grow the first season without pruning. In November or December following, cut back the growth, allowing but three or four buds to remain. The next spring allow but two of the strongest buds to throw out shoots. These, in the fall, will be from 5 to 7 feet long, and should be fastened to the lower part of the trellis. When growth commences, pinch the buds so that the shoots will be from 10 to 12 inches apart.

**Currants and Gooseberries.** The vigor of the plants may be kept up for many years by cutting out all wood that shows signs of failing, and by annually cutting back or thinning out the young shoots.

**Raspberries and Blackberries.** If the reader will bear in mind the following points, it will aid him much in the intelligent pruning of Raspberries and Blackberries.

The canes are produced one season, bear fruit the next, and then die. After the canes have produced one crop of fruit, they are of no more use, and should be removed. The roots continually furnish new suckers or canes, which, in their turn, bear one crop of fruit and then die. The point to be borne in mind is to do away entirely with the wood which has already produced its fruit, and to train the coming fruit-bearing wood in such a manner as to be self-supporting, and produce the most fruit.

**Roses.** Tender varieties and climbers need but little cutting back, except to make the bush of good shape, but hardy varieties must be severely pruned each year. **Do not be afraid to cut them well back**, as the blooms are produced on the new wood.

**Ornamental Trees, Shrubs, etc.** These require but little pruning after the first year, except to remove a branch here and there which may spoil their appearance, and to keep them in symmetrical shape.

## SPRAYING

All authorities now recognize the importance of properly spraying to protect from the ravages of insects. The time to spray is when the operation is needed to protect the plant. This will vary therefore with every season and different pests.

The following directions should be followed as closely as possible, as they have been formulated after much experience. NEVER SPRAY FRUITS WHEN IN BLOOM.

PLANT	First Application	Second Application	Third Application	Fourth Application
<b>Apple</b> Scab codlin moth, bud moth.	When buds are swelling, Bordeaux, copper sulphate solution and arsenites	Just before blossoms open, Bordeaux. For bud-moth, arsenites when leaf-buds open	When blossoms have fallen, Bordeaux and arsenites	Ten to 14 days later, Bordeaux and arsenites.
<b>Cherry</b> Rot, aphid, slug.	As buds are breaking, Bordeaux. When aphid appears kerosene emulsion.	When fruit has set, Bordeaux. If slugs appear, Hellebore.	Ten to 14 days if rot appears, ammoniacal copper carbonate.	Ten to 14 days later, ammoniacal copper carbonate.
<b>Currant</b> Mildew, worms.	At the first sign of worms, arsenites or Bordeaux.	Ten days later, Hellebore. If the leaves mildew, Bordeaux.	If worms persist, Hellebore.	After fruit is harvested, apply Bordeaux freely.
<b>Gooseberry</b> Mildew, worms.	When the leaves expand, Bordeaux; and for worms, as above.	Ten to 14 days later, Bordeaux. For worms, as above	Ten to 14 days later, ammoniacal copper carbonate. For worms as above.	Ten to 14 days later, repeat third.
<b>Grape</b> Fungus diseases and flea beetle.	In spring, when buds swell, copper sulphate solution. Paris green for flea beetle.	When leaves are 1 to 7½ inches in diameter, Bordeaux; Paris green for larvae of flea beetle.	When the flowers have fallen, Bordeaux; Paris green, as before.	Ten to 14 days later, Bordeaux.
<b>Peach</b> <b>Nectarine</b> <b>Apricot</b> Brown rot.	Before buds swell, copper sulphate solution.	Before the flowers open, Bordeaux.	When fruit has set, repeat first.	Ten to 14 days later, repeat.
<b>Pear</b> Leaf-blight, scab, psylla, codlin moth.	As buds are swelling, copper sulphate solution or Bordeaux.	Just before blossoms open, Bordeaux; kerosene emulsion when the leaves open for psylla.	After the blossoms have fallen, Bordeaux and arsenites, kerosene emulsion if necessary.	Eight to 12 days later, repeat third.
<b>Plum</b> Fungus diseases, curculio.	During first warm days of early spring Bordeaux for black knot. When leaves are off in the fall, Kerosene emulsion for plum scale.	When buds are swelling, Bordeaux for black knot and other fungus diseases. During mid-winter, kerosene emulsion for plum scale.	When blossoms have fallen, Bordeaux; begin to jar trees for curculio before buds start in spring; kerosene emulsion for plum scale.	Ten to 14 days later, Bordeaux; jar trees for curculio every two to four days.
<b>Quince</b> Leaf and fruit spot.	When the blossom buds appear, Bordeaux.	When fruit has set, Bordeaux and arsenites.	Ten to 20 days later, Bordeaux.	Ten to 20 days later, Bordeaux.
<b>Raspberry</b> <b>Blackberry</b> <b>Dewberry</b> Athrachnose rust.	Before buds break copper sulphate solution, Bordeaux. Cut out badly diseased canes.	During summer, if rust appears on the leaves, Bordeaux.	Repeat second if necessary.	Orange or red rust is treated best by destroying entirely the affected plants.
<b>Rose</b> Mildew, black spot, red spider aphid.	For mildew, thoroughly stir the soil, encourage growth, is best thing that can be done.	For black spot, spray plants once a week with ammoniacal copper carbonate, using fine spray	For red spider, spray plants twice a week with kerosene emulsion. Apply to under side of foliage.	For aphid, spray affected parts with kerosene emulsion when necessary.

**San Jose Scale.** Lime, Sulphur and Salt solution applied in early part of March, also kerosene emulsion when young appear in spring and summer.

## FORMULAS

### Bordeaux Mixture

Copper Sulphate..... 6 pounds  
Quicklime..... 4 pounds  
Water..... 45 gallons

To destroy leaf-eating insects, add four ounces of Paris Green. For **Peach**, use three pounds each of copper sulphate and lime, and three ounces of Paris Green, on account of the tenderness of the foliage.

When a single barrellful of the Bordeaux mixture is required, dissolve in a coal-oil barrel partly filled with water 5 pounds of copper sulphate (bluestone). Hot water facilitates the operation. To dissolve quickly, place the copper sulphate in a cotton bag or basket, and suspend this in the vessel containing water so that it is entirely immersed. In another vessel slake five pounds of fresh lime with as many gallons of water. If the lime, when slaked, is lumpy or granular, it should be strained through a fine sieve or coarse sacking. Then nearly fill the barrel containing the copper sulphate now in solution, with water, add sufficient lime water and it is ready for use. Use good lime and slake carefully.

When a large amount is contemplated, it is a good plan to make stock solutions separately, of lime and bluestone, which can be diluted as needed; dissolve 100 pounds of copper sulphate in 40 gallons of water; two gallons, when dissolved will contain five pounds of the salt. In another barrel, slake 100 pounds of fresh lime and make up a milk by adding 40 gallons of water; when well stirred, two gallons should contain five pounds of lime. When, as before, it is desired to make a barrel of Bordeaux mixture, take two gallons of the stock solution of copper sulphate, partly fill the barrel with water, and add two gallons of the milk of lime; if the lime is of good quality, it will be sufficient to neutralize it completely. If the lime is air-slaked or impure, the right quality can be ascertained by applying the ferrocyanide of potassium test. A two-ounce bottle containing a saturated solution of ferrocyanide of potassium (yellow prussiate of potash) added to the mixture will turn it brown. Add the milk of lime till the drop of ferrocyanide of potassium remains colorless, then add a little more milk of lime to make sure that the strength is uniform, and fill the barrel with water.

JOHN CRAIG, Horticulturist.

### Lime, Salt and Sulphur

As an all-round remedy (insecticide and fungicide) it promises very well indeed, and we

shall be pleased to have as many as will join us in making further experiments next April, and report results. The proportion of this wash may be varied to almost any extent. A good pump will spray two pounds of lime to the gallon of mixture without clogging, and if the lime be good and properly slaked, there will be no settling in the barrel. The proportions recommended from California are 35 pounds lime, 15 pounds sulphur, and 15 pounds salt, in 50 gallons mixture; and the California people suggest that a larger proportion of lime and sulphur than they use might be advantageous in the East, and that with them salt is not an essential. We find that 35 pounds lime, 15 pounds sulphur and 10 pounds salt, with enough hot water to make 30 gallons of mixture, will spray very freely and cover the tree more perfectly. To prepare this wash, place half of the water in a large kettle, add the salt and sulphur, bring the water to a boil, throw in the lime, adding hot water from another kettle to prevent burning, boil two to three hours, increase the quantity to 30 gallons with hot water and apply while hot.

We would recommend crude petroleum, 20 to 25 per cent with water, for apples, pears, plums, etc., and whale-oil soap, full strength and quantity, for peaches.

GEO. E. FISHER.

### Arsenite of Lime

This insecticide is coming more into popular favor yearly, and is worthy of it. Arsenite of lime is at least one-half cheaper than Paris Green, is equally efficient, and will not burn the tenderest foliage at the strength ordinarily applied.

To make 800 gallons of spraying mixture—

White Arsenic ..... 2 pounds  
Sal Soda ..... 8 pounds  
Water ..... 2 gallons

Boil all together for 15 minutes, or till the arsenic dissolves. One pint of this stock solution and two pounds of slaked lime, added to a barrel of water, is equal in insecticidal value to one-quarter pound of Paris green, and costs half as much. Arsenite of lime ought to be used more generally in place of Paris green.

### Arsenite of Lead

Arsenite of Lead..... 1 pound  
Water ..... 150 gallons

## Hellebore

Fresh White Hellebore.....1 ounce  
Water .....3 gallons

May be used for spraying at times when arsenical sprays would be dangerous.

## Kerosene Emulsion

Hard Soap..... $\frac{1}{2}$  pound  
Boiling Water .....1 gallon  
Kerosene .....2 gallons

Dissolve the soap in hot water, add the kerosene, and churn with a pump, by directing the nozzle into the solution for five or ten minutes until it emulsifies (or becomes of a thick, creamy consistency). This is the stock emulsion and will remain in this state indefinitely. It must be diluted with water according to directions. From four times for the San José scale, when the leaves are off, to twenty times for aphids. For insects that suck, cabbage worms, and all insects that have soft bodies.

## Copper Sulphate Solution

Copper Sulphate.....1 pound  
Water .....25 gallons

This should be used only before the foliage appears, but should not be applied to any plant after the buds have opened. It is easily applied, and acts as a general germicide and disinfectant. In simple solution copper sulphate is very injurious to foliage. When lime is added, as in making Bordeaux mixture, its corrosive action is neutralized and injury to the foliage prevented. In this way a larger quantity of bluestone may be used, and it adheres to the foliage better by the agency of lime.

## Ammoniacal Copper Carbonate

Copper Carbonate .....5 ounces  
Ammonia .....2 quarts  
Water .....50 gallons

The copper carbonate is best dissolved in large bottles, where it will keep indefinitely, as it should be diluted with water as required. For the same purpose as Bordeaux.

## Tobacco

Boil tobacco stems, and use at the rate of two gallons to each pound of stems, for sucking insects.

## Paris Green

FOR FRUIT

Paris Green.....4 ounces  
Water.....40 or 50 gallons

## PARIS GREEN FOR POTATOES

Paris Green.....6 to 8 ounces  
Water.....40 to 50 gallons

**Test of Paris Green.** Put a small quantity into some common ammonia or hartshorn. If it be good, the Paris green will all dissolve, leaving no sediment; if not, there will be more or less sediment remaining. It is always well to apply this test before treating a large area, as but a few minutes are required to make the test, and much valuable time may be saved, for Paris green is not always true to name.

If this mixture is to be used on peach trees, one pound of quick-lime should be added. Repeated applications will injure most foliage unless lime is added. Paris green and Bordeaux can be applied together with perfect safety. The action of neither is weakened, and the Paris green loses all caustic properties. For insects which chew.

## SCALECIDE

A combined fungicide and insecticide, believed by many to be far superior to lime-sulphur in the treatment for San José scale, and of less cost. We are prepared to furnish printed directions for the use of Scalecide and to quote prices. For further information on this subject, please write us.

## CAUTIONS

Do not mix the copper preparations in iron or tin; always use wood, brass or earthen vessels.

Study carefully the nature of the insect or disease, and select the remedy that is most likely to destroy it without danger of injuring the plants.

Use the best pumps and other equipment obtainable.

Clean the pump and tank immediately after using.

You should have a good hand pump, ready for work at any minute, no matter if you have a power pump.

Use good materials and at full strength. Cheap materials often mean wasted effort in the orchard and a final loss of the crop.

## SPRAY PUMPS, ETC.

We are frequently asked by our customers to name the best spray pumps, nozzles, etc. While there are many desirable ones on the market, our experience with those manufactured by **The Goulds Manufacturing Company, of Seneca Falls, N. Y.**, has been very satisfactory. We now use them entirely in our nursery and can recommend them to our patrons. Write us for further information.





NUMBER OF PLANTS ON AN ACRE, AT VARIOUS DISTANCES

4 feet apart, each way	2,723
5 " " " "	1,743
6 " " " "	1,210
8 " " " "	680
10 " " " "	430
12 " " " "	302
15 " " " "	194
18 " " " "	135
20 " " " "	110
25 " " " "	70
30 " " " "	48

To estimate the number of plants required for an acre, at any given distance, multiply the distance between the rows by the distance between the plants, which will give the number of square feet allotted to each plant, and divide the number of square feet in an acre (43,560) by this number. The quotient will be the number of plants required.

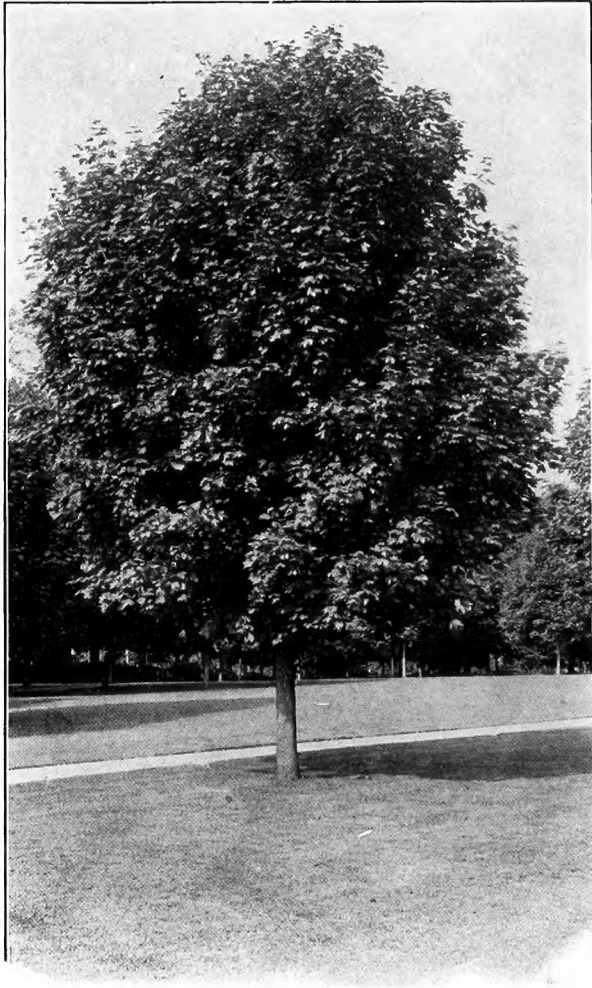
SUITABLE DISTANCES FOR PLANTING

Apples, Standard	30 to 40 feet apart, each way
Pears, Standard	16 to 20 " " "
Dwarf	10 to 12 " " "
Cherries, Sweet	18 to 20 " " "
Sour	16 to 18 " " "
Plums, Standard	16 to 20 " " "
Peaches	16 to 18 " " "
Apricots	16 to 18 " " "
Nectarines	16 to 18 " " "
Quinces	10 to 12 " " "
Currants	3 to 4 " " "
Gooseberries	3 to 4 " " "
Raspberries	3 to 5 " " "
Blackberries	6 to 7 " " "
Grapes	8 to 12 " " "

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Catalpa.....	35	Helleborus.....	65	Picea.....	43	Tuberose.....	73
Cercis.....	37	Hepatica.....	67	Pine.....	43	Tulip Tree.....	40
Chalk Plant.....	65	Hemerocallis.....	65	Pinus.....	43	Tulips.....	36
Chamæcyparis.....	43	Hibiscus.....	46, 47, 69	Plane Tree.....	39	Ulmus.....	70
Chamomile.....	55	Hollyhocks.....	67	Plantain Lily.....	68, 69	Valeriana.....	71
Cherries.....	18, 19	Honeysuckle.....	53	Platanus.....	39	Valerian.....	71
Cherry, Flowering.....	35	Honeysuckle, Upright.....	48	Platycodon.....	65	Valerian, Greek.....	66
Chestnut.....	35	Horse-Chestnut, Flowering.....	37	Plum, Flowering.....	69	Veronica.....	70
Chionanthus.....	48	Hyacinths.....	73	Plum, Purple-leaved.....	50	Viburnum.....	51
Chrysanthemum.....	70	Hydrangea.....	49	Plums.....	20, 21	Vinca.....	68
Clematis.....	54	Iberis.....	64	Polemonium.....	66	Virginia Creeper.....	52-54
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Columbine.....	65	Ivy, American.....	52	Poplar.....	39	Weigela.....	51
Coneflower.....	65	Ivy, Boston.....	52	Populus.....	39	Willow.....	41
Coreopsis.....	71	Ivy, English.....	53	Primrose.....	69	Windflower.....	71
Cornus.....	36	Ivy, Japanese.....	52	Primula.....	69	Wistaria.....	53
Corylus.....	48	Judas Tree.....	37	Privet.....	55	Wolfsbane.....	68
Crab Apples.....	14	Juglans.....	40, 41	Prunus.....	35, 50	Wormwood.....	71
Crab, Flowering.....	35	Juniperus.....	43	Pyrrethrum.....	65	Yucca.....	70
Crataegus.....	40	Juniper.....	43	Pyrus.....	35	Yarrow.....	71
Crocuses.....	73						





A fine specimen of Norway Maple—the most valuable  
tree for street planting

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